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ABSTRACT

The School-to-Work Opportunities Act of 1994 provides 5-year federal grants to help states implement school-to-work (STW) systems with broad collaboration among employers, organized labor, educators, and public agencies. All states have taken steps to create a statewide infrastructure. Local partnerships are widespread, but new and evolving. School-based and workplace components have received uneven attention. Early efforts most often build on vocational education programs. Participation in career development activities is high, but for individuals such activities are typically occasional and unconnected. Student involvement in integrated curricula is relatively uncommon. Integration of academic and vocational instruction is widely pursued. Developing work-based activities is the top priority of most local partnerships. Local constraints typically limit emphasis on paid positions with structured training and work experience. Workplace opportunities that students get through school are of higher quality than those they find. Few students have participated in multiple STW activities. Schools and employers play more active roles than postsecondary institutions in STW partnerships. Involvement of organized labor and parents is limited. Emerging issues are as follows: can states can fit STW in a coherent policy framework; can workplace learning be made meaningful to all students; and can curriculum be built consistently around career themes. (Contains 23 references.) (YLB)

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# PARTNERS IN PROGRESS: EARLY STEPS IN CREATING SCHOOL-TO-WORK SYSTEMS

April 1997

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## ACKNOWLEDGMENTS

This report presents just the start of what we hope to learn about school-to-work (STW) systems, but the evaluation work it represents has already benefited from the efforts and contributions of many people. Appreciation goes first of all to the many people in the eight states we focus on in this report who are working hard to make STW systems a reality. Many of these people have also played an important role in the evaluation. Particular thanks go to the state STW directors and others in their offices in the eight in-depth study states who have helped organize our site visits at the state level and promote overall support of the evaluation: Michael Brawer and Frank Hammons in Florida, Dianne Smithers and her predecessor Beth Brinly in Kentucky; Katherine Oliver and Leo Lezzer in Maryland; John Niles and Kathy Flynn in Massachusetts; Robert Pendleton and Willard Walker in Michigan; Robert Radway, Susan Streitenberger, and Jim Mermis in Ohio; Nancy Hargis and Holly Miles in Oregon; and Vicki Poole in Wisconsin.

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The listed authors of this report are only part of the evaluation team. First recognition should be given to Gary Hoachlander of MPR Associates, who made major contributions in interpreting the information we had collected. Other team members played important roles in synthesizing site visit information: Linda Rosenberg and Andrew Samson of Mathematica Policy Research, Inc.; Valeria Perez-Ferreiro, Denise Bradby, and David Emmanuel of MPR Associates; and Russell Jackson and Gwen Joseph of Decision Information Resources. Most of these staff members also conducted case study site visits. Other site visit staff included: Charles Nagatoshi, Robert Wood, and Amy Friedlander for Mathematica; Elliot Medrich, Cara Lesser, Dave Singleton, and John Mergendoller of MPR Associates; and Rhonda Strauss, Carla Prince, and John Beal of DIR. The parts of this report that rely on student survey data are largely the result of the dedication and expertise of Mathematica's survey director, Pat Nemeth, statistician John Hall, who designed the sample, the survey manager Anne Self, and a hard-working group of interviewers and support staff. The production of this report has benefited from the consistent energy and concern for quality exhibited by Jill Miller as project secretary and Patricia Ciaccio as editor. Walter Corson provided insightful quality assurance and advice.

Nobody but the authors, of course, bears any responsibility for the innumerable judgments and conclusions reflected in the report. Summarizing the complex efforts of building STW systems and coming to overall findings about those efforts is likely occasionally to do less than full justice to those whose work we are describing.

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## CONTENTS


| Chapter | | Page |
|---|---|---|
| | EXECUTIVE SUMMARY | xv |
| I | INTRODUCTION | 1 |
| | A. THE SCHOOL-TO-WORK OPPORTUNITIES ACT: BACKGROUND AND PURPOSE | 2 |
| | 1. STW Legislation Envisions Systemic Change Through Comprehensive Partnerships | 5 |
| | 2. Substantial Funding Has Been Provided | 7 |
| | B. EVALUATION OF STW IMPLEMENTATION | 10 |
| | 1. Three Components of the Evaluation | 10 |
| | 2. Basis for the First Evaluation Report: 12th-Grade Survey and Site Visits | 11 |
| | C. FOCUS OF THE REPORT | 13 |
| | 1. STW Components: What System Features Are Being Developed? | 14 |
| | 2. Two Perspectives: STW As Seen by Institutions and Students | 15 |
| | 3. Distinguishing Programs from Systems | 16 |
| II | STATE STW IMPLEMENTATION APPROACHES | 21 |
| | A. STEPS TOWARD STATE SYSTEMS | 22 |
| | 1. State-Level STW Structures Established, but Some Still Being Strengthened | 22 |
| | 2. Diverse State Policies, Models, and Resources Created to Promote STW | 25 |
| | 3. States Have Almost Completed Creation of Substate Partnership Structures | 26 |
| | B. ADMINISTRATIVE MODELS AND EFFECT ON STW PRIORITIES | 31 |
| | 1. Choice of Administrative Agency Affects Emphasis on Schools or Workplaces | 31 |
| | 2. Independent STW Office Can Avoid Favoring One Agency but May Lack Leverage | 34 |

**CONTENTS** *(continued)*


| Chapter | | Page |
|---|---|---|
| II (continued) | C. LINKS TO OTHER STATE POLICIES AND PROGRAMS | 35 |
| | 1. STW Embedded in General Education Reform in Two of the Eight States | 35 |
| | 2. State STW Priorities Usually Build on Programs that Originate in Vocational Education | 38 |
| | 3. STW Linked to Economic and Workforce Development, but Employer Roles in STW Unclear | 41 |
| III | HELPING STUDENTS LOOK FORWARD: APPROACHES TO CAREER DEVELOPMENT | 45 |
| | A. THE PLACE OF CAREER DEVELOPMENT IN STW STRATEGIES | 47 |
| | 1. Career Development Is a Logical Early STW Priority | 49 |
| | 2. State Career Development Models Offer Clear Guidelines to Local Partnerships | 50 |
| | 3. Career Development Is the STW Element Most Likely to Affect All Students | 52 |
| | B. HOW CAREER DEVELOPMENT GOALS AFFECT LOCAL PRACTICES | 53 |
| | 1. The Role of Counselors is Changing | 54 |
| | 2. Others Besides Counselors Now Play Important Career Development Roles | 56 |
| | 3. Opportunities for Students to Learn about Careers and Interests Are Expanding | 57 |
| | 4. Teaching "Work Readiness" Is a Common Focus | 61 |
| | 5. Career Development Not Yet Systematic in Many Partnerships | 63 |
| | C. CURRENT PATTERNS OF STUDENT ACTIVITY | 65 |
| | 1. Students Get Career Information from Diverse Sources | 66 |
| | 2. Basic Participation in Career Development Activities is High, Particularly at School | 67 |
| | 3. For Some Students, Workplace Exposure Extends Beyond One Occasion | 69 |

**CONTENTS** *(continued)*


| Chapter | | Page |
|---|---|---|
| IV | RESHAPING CURRICULUM: CHANGES IN SCHOOL-BASED LEARNING | 71 |
| | A. CREATING CAREER-FOCUSED PROGRAMS OF STUDY | 72 |
| | 1. Career Majors Appear a Lower Early Priority Than Other Elements of STW Systems | 73 |
| | 2. Career Majors Vary in the Degree to Which They Determine Students' Studies | 75 |
| | 3. Career Majors That Define Programs of Study Build on Existing Programs | 77 |
| | 4. In Early Implementation, Few Students Are in Defined Career-Focused Programs of Study | 79 |
| | B. INTEGRATING ACADEMIC AND OCCUPATIONAL LEARNING | 82 |
| | 1. "Integration" Typically Emphasizes Method over Content | 83 |
| | 2. Early Experience with Applied Academics Is Shaping Current Approaches | 86 |
| | 3. Professional Development on Curriculum Integration is Widespread But Thin | 88 |
| | 4. Student Responses Confirm Prevalence of Modest Forms of Curriculum Integration | 90 |
| | C. RAISING ACADEMIC AND TECHNICAL SKILL STANDARDS | 95 |
| | 1. STW Viewed So Far as Peripheral to Academic Reform in Most States | 96 |
| | 2. Academic and Technical Standards Increasingly Linked in Occupational Programs | 97 |
| | 3. National Skill Standards Welcomed, but Their Current Narrow Focus Is a Concern | 99 |
| V | LEARNING BY WORKING: STUDENTS' WORK-BASED ACTIVITIES | 103 |
| | A. STRATEGIES FOR DEVELOPING WORK-BASED LEARNING | 104 |
| | 1. Expansion of Work-Based Activities Represents the Top Priority of Most Local Partnerships | 105 |
| | 2. Local Circumstances Affect Number and Types of Workplace Activities | 107 |
| | 3. Most Intensive Workplace Activity Currently Intended for Students in Vocational Programs | 114 |

**CONTENTS** *(continued)*


| Chapter | | Page |
|---|---|---|
| V (continued) | B. PARTICIPATION IN INTENSIVE WORKPLACE ACTIVITIES | 116 |
| | 1. Workplace Activity of Some Sort Is Already Common Among High School Students | 117 |
| | 2. Schools Arrange a Modest Portion of Students' Workplace Activity | 118 |
| | C. QUALITY OF WORKSITE LEARNING OPPORTUNITIES | 121 |
| | 1. Diverse Settings of Jobs Through Schools Improve Exposure to Careers | 122 |
| | 2. Workplace Activity Through Schools Offers More Structured Training | 126 |
| | 3. Links Between School and Worksite Learning Are Common but Seldom Robust | 129 |
| | 4. School-Worksite Communications Are Common but Often Limited in Depth | 133 |
| | 5. Overall Level of Participation in "Linked Workplace Component" | 135 |
| VI | ENCOURAGING LARGE-SCALE PARTICIPATION IN DIVERSE ACTIVITIES | 137 |
| | A. INVOLVING ALL STUDENTS: ATTITUDES AND PRACTICES | 139 |
| | 1. Early Implementation Efforts Focus on at Least Some Aspect of STW for All Students | 139 |
| | 2. Inclusion of Special Populations Addressed by Organizational and Funding Decisions | 142 |
| | B. CURRENT LEVEL OF MULTIPLE-COMPONENT PARTICIPATION | 145 |
| | 1. Participation Greatest in Career Development Activities | 147 |
| | 2. Participation in Full Set of STW Components is Rare in Early Implementation Stage | 149 |
| VII | MAKING LOCAL PARTNERSHIPS WORK | 151 |
| | A. LINKING SCHOOL DISTRICTS AND POSTSECONDARY INSTITUTIONS | 152 |
| | 1. Some States' Policies Promote Transition to Postsecondary Programs | 153 |
| | 2. Postsecondary Institutions Participate in STW Partnerships, but Rarely in Leading Roles | 158 |

CONTENTS *(continued)*


| Chapter | | Page |
|---|---|---|
| VII (continued) | B. LINKS BETWEEN SCHOOLS AND EMPLOYERS | 160 |
| | 1. Employers Participate Widely in Partnership Governance | 162 |
| | 2. Steps to Encourage Employers in Providing Workplace Opportunities for Students | 164 |
| | 3. Employers Can Help Teachers and Counselors Learn About Careers | 167 |
| | C. ROLES OF OTHER PARTNERS: LABOR AND PARENTS | 168 |
| | 1. Organized Labor Has Played a Limited Role So Far | 169 |
| | 2. Parents Participate Sporadically, But Not in Organized Groups | 171 |
| | D. THE SIGNIFICANCE OF THE LOCAL PARTNERSHIP | 174 |
| | 1. The Functions of the Partnership | 176 |
| | 2. Prospects for Sustained Partnerships Uncertain | 181 |
| VIII | EMERGING IMPLEMENTATION ISSUES | 185 |
| | A. CAN STATES FIT STW INTO A COHERENT EDUCATION POLICY FRAMEWORK? | 185 |
| | B. CAN STRUCTURED WORK-BASED LEARNING BECOME COMMONPLACE? | 187 |
| | C. HOW CAN WORKPLACES BE USED CREATIVELY FOR ALL STUDENTS? | 188 |
| | D. CAN SCHOOL CURRICULUM CONSISTENTLY FOCUS ON CAREERS? | 191 |
| | E. WILL STW PARTNERSHIPS BE IMPORTANT INSTITUTIONS? | 193 |
| | REFERENCES | 197 |

## TABLES


| Table | | Page |
|---|---|---|
| I.1 | SUMMARY OF EARLY FINDINGS FOR EIGHT IN-DEPTH STUDY STATES: FIRST STEPS TOWARD SCHOOL-TO-WORK SYSTEMS | 3 |
| I.2 | SUMMARY OF GRANTS UNDER THE SCHOOL-TO-WORK OPPORTUNITIES ACT AS OF JANUARY 1997 | 8 |
| I.3 | STUDENT CHARACTERISTICS IN THE EVALUATION SURVEY SAMPLE COMPARED TO STUDY STATES AND THE NATION | 12 |
| II.1 | IN-DEPTH STUDY STATES: GOVERNANCE AND ADMINISTRATIVE STRUCTURES AND FUNDING | 24 |
| II.2 | EARLY FEATURES OF STATE STW INFRASTRUCTURE | 25 |
| II.3 | FUNDING OF LOCAL PARTNERSHIPS IN IN-DEPTH STUDY STATES | 29 |
| II.4 | EDUCATION REFORM AND ECONOMIC DEVELOPMENT INITIATIVES LINKED TO SCHOOL-TO-WORK STRATEGIES | 36 |
| V.1 | SUCCESS IN MATCHING STUDENTS' INTERESTS AND WORKPLACE SETTINGS: PERCENT OF STUDENTS IN AN INDUSTRY REFLECTING CAREER INTEREST | 125 |

## FIGURES


| Figure | | Page |
|---|---|---|
| III.1 | PEOPLE STUDENTS TALK TO ABOUT CAREER PLANS | 66 |
| III.2 | PARTICIPATION IN CAREER DEVELOPMENT ACTIVITIES | 68 |
| IV.1 | STUDENT CLUSTERING BY CAREER FOCUS IN ACADEMIC COURSES | 81 |
| IV.2 | CAREER CONTEXT IN ACADEMIC CLASSES IN 11TH AND 12TH GRADES | 91 |
| IV.3 | USE OF ACADEMIC COMPETENCIES IN VOCATIONAL-TECHNICAL COURSES IN 11TH AND 12TH GRADES | 92 |
| IV.4 | INVOLVEMENT IN CAREER-FOCUSED PROGRAM OF STUDY BY 11TH GRADE | 94 |
| V.1 | PARTICIPATION IN INTENSIVE WORKPLACE ACTIVITIES | 117 |
| V.2 | PARTICIPATION IN INTENSIVE WORKPLACE ACTIVITIES, BY GRADE | 119 |
| V.3 | INDUSTRIES IN WHICH STUDENTS HAVE PAID WORKPLACE EXPERIENCES | 123 |
| V.4 | AMOUNT OF TRAINING IN WORKPLACE ACTIVITIES | 127 |
| V.5 | WORKPLACE LINKS TO CLASSROOM CONTENT | 132 |
| V.6 | WORKPLACE ACTIVITY COUNTS IN SCHOOL GRADES | 133 |
| VI.1 | STUDENT INVOLVEMENT IN KEY STW COMPONENTS | 147 |

# EXECUTIVE SUMMARY

Many Americans feel that our system of education often fails to prepare youth for careers and employment. Too many young Americans drop out of high school, many who graduate lack marketable skills and go no further in their education, and even many who go on to postsecondary education do so with little sense of career direction to guide their educational choices. For many students, what they learn in school appears to have little relevance to the "outside world." As global competition sharpens and well-paid employment increasingly requires sophisticated skills, failing to prepare youth for the future jeopardizes their well-being and our nation's economic strength.

This report is the first product of a comprehensive evaluation of a major federal effort to respond to these concerns--the School-to-Work Opportunities Act. The report presents a description of very early steps in implementing this initiative, as a baseline for later judgments of its success in changing how American youth are prepared for the future.

## The School-to-Work Opportunities Act: Funding for State and Local Implementation

The School-to-Work Opportunities Act of 1994 (STWOA) provides five-year federal grants as "seed money" to help states implement school-to-work (STW) "systems." These systems are to involve broad collaboration at the state level among employers, organized labor, educators, and public agencies responsible for economic and workforce development, education, and human services. By late 1996, federal funding totaling $643 million had been provided: to 8 states in 1994, 19 in 1995, and 10 more in late 1996.

Much of the STWOA funding flows to local partnerships. Partnerships are required under the STWOA to include employers, educators, labor representatives, and students and may also include a wide range of other public agencies and community groups. Most local funding is in the form of grants awarded by states out of their federal grants, but the federal government also funds some local partnerships directly. By July 1996, there were 875 local partnerships in the first 27 states with implementation grants that had received either substate grants or direct federal grants. Federal grants had also been made directly to an additional 30 local partnerships in other states, and to a total of 26 organizations serving Native Americans or youth in urban and rural high-poverty areas. Further grants from the $1.095 billion appropriated by Congress are likely to be awarded

## The Vision of a School-to-Work System

The STWOA and proponents of this initiative envision a coherent system of connected programs built in part on foundations created by earlier initiatives such as Tech-Prep, career academies, cooperative education, and Goals 2000. The Act encourages partnerships to build the following key elements of a STW system:

- ***School-Based Features.*** "Career majors" that students choose by 11th grade, combining academic and vocational instruction that meets high standards, linking high school to related

postsecondary programs, and including conscious strategies for introducing students to all aspects of a broadly defined industry

- ***Work-Based Learning.*** Opportunities for students to get work experience and training coordinated with their school-based studies

- ***Connecting Activities.*** Recruiting employer partners, matching students with workplace opportunities and mentors, and helping schools and employers to fulfill their roles and strengthen their collaboration

- ***Career Development.*** Activities in schools and workplaces to help students become aware of their interests and strengths, learn about career options, formulate goals, and make choices wisely to ensure that their studies provide a foundation for further education and a future career

The aim of the STWOA is to do more than enhance specific targeted programs that improve school curriculum, provide workplace experience, or help students understand careers. It aims to ensure that all students have access to a coherent combination of these activities in a gradual progression toward more focused personal goals and advanced skills. The focus is on building sustainable systems of connected programs with consistent policies that promote broad participation.

**The Evaluation of School-to-Work Implementation**

The STWOA mandates a national evaluation. The five-year evaluation is being conducted by Mathematica Policy Research, Inc., and its subcontractors MPR Associates, Inc., and Decision Information Resources, Inc. The evaluation, which is being performed under contract to the U.S. Department of Education, with support from the national STW office and the U.S. Department of Labor, has the following main features:

| Evaluation Questions | Evaluation Components |
|---|---|
| Have states and local partnerships created ***coherent STW systems*** of connected, sustainable practices and programs? | ***Survey of all local partnerships*** in late 1996, 1997 and 1999 |
| How do STW systems ***change what students do*** at the elementary and secondary education levels? | ***In-depth case studies*** of eight states and a sample of 39 local partnerships in 1996, 1997, and 1999 |
| How do ***postsecondary paths*** change as STW systems are developed? | ***Survey of students*** in the same eight states, including 12th-grade surveys in 1996, 1998, and 2000, and postsecondary followup |
| Are the activities and practices promoted by the STWOA adopted on a ***wide scale?*** | ***Analysis of high school transcripts*** for the student survey sample, to determine which segments of the student population participate in STW activities |

This first report focuses on the eight in-depth study states: Kentucky, Massachusetts, Michigan, Oregon, Wisconsin, Florida, Maryland, and Ohio. The states were selected because they include a wide range of urban and rural partnership settings at different stages of development. The first five states received STW grants in 1994, but the last three received their grants in late 1995, and had thus just begun STW implementation efforts in 1996 when the first evaluation data were collected. While this report focuses on these eight states, later evaluation reports will draw on data from the local partnership survey for all states with STW grants.

The report draws on two sources: (1) the first case study site visits in spring 1996; and (2) the first student survey, of a representative sample of all 12th graders in STW partnerships in the eight states.[1] Case study site visits provide a wealth of detailed information about approaches to STW implementation, plans being developed, successes and challenges encountered, and the views and insights of employers, school and college administrators, faculty, and counselors, students, parents and labor representatives. Findings based on case study visits are the result of careful analysis and interpretation of what we hear from such respondents and what we observe, but the nature of the data collection precludes quantitative analysis and tallies of every phenomenon. The student survey, in contrast, provides a basis for quantitative estimates of the percentages of students in STW partnership schools who have engaged in particular activities.

Both the case studies and the student survey provide information about only the eight in-depth study states. Although the progress observed and issues identified in these states are likely to be similar to experiences in other states, the eight states are not in any formal statistical sense representative of other states' experiences. Later evaluation reports based on the local partnership survey will draw on data from all 27 states that had received federal implementation grants by fall 1995.

As these implementation efforts evolve, the evaluation will focus on whether a STW *system* is emerging. Over the longer term, we will assess progress towards creation of a STW system by the *consistency* between state STW policy and other education and workforce policies, the *continuity* achieved in innovative program features, the *connectedness* of activities available to students, the *breadth and diversity* of student participation, and the *sustainability* of the institutional relationships forged by STW partnerships. At this stage, our main findings on early implementation efforts are shown in Table 1:

## STATE APPROACHES TO STW IMPLEMENTATION (Chapter II)

States are expected to be instrumental in building STW systems. The expectation in the STWOA is that they will create a statewide STW infrastructure including high-level governance and administrative support, statewide marketing of STW concepts, training and technical assistance for local partnerships, curriculum models, a skill certification process, and labor market information.

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[1]This first report focuses primarily on students of high school age, their experiences, and how STW partnerships are working to change them. STW reforms also affect elementary and middle schools, and often involve alternative education providers serving out-of-school youth. Future reports will give greater attention to these topics.

**TABLE 1**

**SUMMARY OF EARLY FINDINGS FOR IN-DEPTH STUDY STATES: FIRST STEPS TOWARD SCHOOL-TO-WORK SYSTEMS**

1. The School-to-Work Opportunities Act has set in motion widespread efforts to change education and the way that employers and educators collaborate. Educators and employers alike in large numbers are excited about the prospects for linking school and workplace learning to prepare students better for successful careers.

2. States have begun building a system infrastructure by creating employer incentives, promoting career development models, facilitating college enrollment, and defining target career clusters. Only one of the eight states has so far done all of these.

3. STW concepts have been made a central element of broader education reform in two of the eight in-depth study states. In some other states, STW priorities are, at this early stage, peripheral to other education reforms.

4. The most widely available aspect of STW components is those activities designed to improve students' career awareness . At this early stage, however, few schools deliver a coherent career development sequence.

5. Changes in school curriculum (such as career majors and integrating academic and vocational instruction) so far are a lower priority than career development or workplace activities.

6. Many local partnerships are concentrating early efforts on promoting workplace activity. There are difficult obstacles to overcome, however, in efforts to expand the scale of structured, extended activities linked to the school curriculum as envisioned in the STWOA.

7. Student participation in some specific STW activities is already common, but few students so far participate in a full range of STW activities. In the baseline cohort of 1996 seniors, two percent had taken part in a variety of career development activities, school-based career majors, and workplace activity linked to high school curriculum. (Follow-up surveys will be used to report on postsecondary education and skill certification.)

8. A widespread set of local partnerships has been created. At this early stage of development, most partnerships have taken just modest steps towards creating common policies and practices, spanning multiple school districts and employers. The long-term role of local partnerships as important institutions is likely to depend on developing functions that schools and employers value enough to support after federal funding expires.

***States have all taken steps to create a statewide infrastructure, but these efforts are just beginning and no state's work is yet comprehensive or complete.*** We found five features that the eight states have created in building a statewide system, although only one state has adopted all of them, as shown in Table 2. Some features originate in STW implementation strategies, and some in other education initiatives.

**TABLE 2**

| Early Features of State STW Infrastructure | FL | KY | MD | MA | MI | OH | OR | WI |
|---|---|---|---|---|---|---|---|---|
| Incentives for Employer Participation: Tax Credits or Wage Subsidies for Hiring Youth Apprentices | | | | | X | | X | X |
| Comprehensive Career Development Models for Age-Appropriate Activities in Elementary, Middle, and High School Years | X | X | X | | | X | X | X |
| New Secondary-Postsecondary Links: Easing Transfer from Two-Year to Four-Year Institutions, or Aligning College Admission Criteria With High School Assessments | | | | X | | | X | |
| Defined Career Clusters: Identification of Industries as Focus for STW Career Pathways/Majors/Strands | | X | X | X | | | X | X |
| State Technical Assistance to Local Partnerships | X | X | X | X | X | X | X | X |

***Two of the eight states have made their STW reforms consistent with and a central part of a general school reform agenda.*** Oregon and Kentucky are implementing major education reforms that preceded the STWOA but already incorporated some key STW features like career majors and career development. Education reform in Massachusetts, in contrast, is so far proceeding somewhat independently of STW priorities.

***Local partnerships are widespread; many are new and still evolving.*** The in-depth study states had by mid-1996 created and funded 245 local partnerships. Some are just beginning to work or adjusting to changing circumstances. Michigan has subsumed STW partnerships under Workforce Development Boards (WDBs), and STW partners are still adjusting to new definitions of their roles. Florida is also creating WDBs. Ohio and Massachusetts have made regional alliances or employment boards responsible for technical assistance or oversight of local partnerships, but their roles so far are limited by sparse resources and competing responsibilities. Much is likely to change at the local level over the next few years, because many partnerships are quite new. Some partnerships included in the in-depth studies, in fact, had not yet received an implementation grant at the time of the first site visits in 1996.

***School-based and workplace components have received uneven attention at the state level.*** Most states have focused early efforts more heavily on either expanding workplace activity for students or changing what goes on in schools. In part, their focus reflects choices about where administrative responsibility for STW implementation is placed. For example, in Michigan and Wisconsin, governors have placed STW administration in agencies with broad responsibility for workforce development and have set goals for getting large fractions of high school students into some form of workplace activity, ranging from brief job shadowing to extensive internships or apprenticeships. Maryland and Oregon, in contrast,

responsibility for STW implementation is placed. For example, in Michigan and Wisconsin, governors have placed STW administration in agencies with broad responsibility for workforce development and have set goals for getting large fractions of high school students into some form of workplace activity, ranging from brief job shadowing to extensive internships or apprenticeships. Maryland and Oregon, in contrast, are relying more on their departments of education to lead STW implementation, and have focused more on implementing education reform initiatives begun before the STWOA. Ohio and Massachusetts have created independent STW offices, outside of any existing agency, which have suffered to some extent in the early stages of implementation from a lack of clout with line agencies or lack of key resources.

***Early state efforts most often build on programs originating in vocational education.*** Expanding or strengthening youth apprenticeship, co-op education, or Tech-Prep programs is a common early strategy and one that is consistent with the STWOA. This strategy is advantageous because it begins with established models and in some cases high-visibility pilot programs that have benefited in recent years from substantial promotion and employer support. On the other hand, this emphasis sometimes reinforces perceptions among parents and teachers that STW systems are just extensions and improvements of vocational education and thus of limited relevance to students who do not consider themselves vocational students.

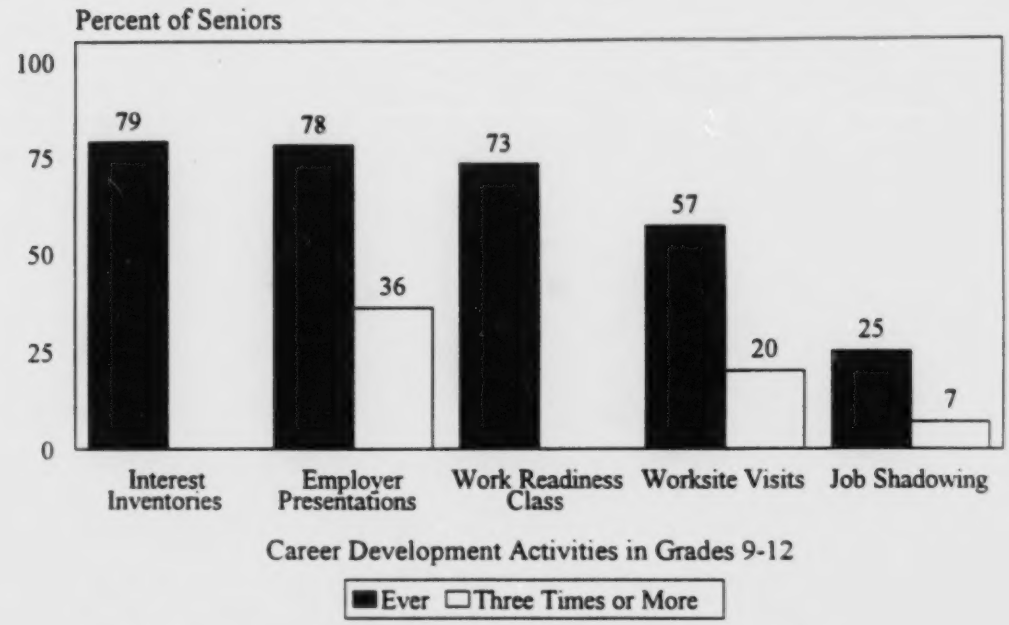
## APPROACHES TO CAREER DEVELOPMENT (Chapter III)

The STWOA promotes activities to help students become aware of careers and explore work environments. These activities include career counseling, interest assessments, career awareness and work-readiness classes or units in academic classes, worksite visits, and job shadowing. Making these activities a systematic part of students' experiences requires overcoming shortages of counseling personnel and expanding the role of counselors beyond the traditional focus on helping students get into college. Making STW systems relevant for all students means that career guidance must take into account a wider range of education and training options and the needs of students of quite different interests and abilities.

***Strengthening career development is a natural emphasis for early implementation and, in many states, an extension of efforts begun before the STWOA.*** Florida, Kentucky, and Wisconsin had made career development a central part of earlier school reforms. Career development activities are emphasized for several reasons. They can help students select their high school courses, choose a career major where that option exists, and decide what workplace activity to pursue. Parents generally see career development activities as useful for all students, rather than a form of "tracking." Schools can strengthen some career awareness and exploration activities on their own, without waiting for recruitment of large numbers of employer partners. As employers become involved, the forms of workplace activity they can most readily offer are student visits and brief job shadowing, which serve career awareness purposes.

***To overcome resource constraints and strengthen career development, schools are changing the delivery of guidance services.*** To multiply the effect of their work, counselors are becoming consultants to other school staff, organizing and overseeing career development services and activities rather than doing all the work themselves. Counselors are more commonly managing career centers where students do self-directed interest assessments and research on careers, using new software products. Teachers in some sites have been enlisted and trained as auxiliary advisers to students. Career awareness units commonly are incorporated into English or social studies classes taught by academic teachers.

FIGURE 1
PARTICIPATION IN CAREER DEVELOPMENT ACTIVITIES




SOURCE: 1996 survey of 12th graders conducted by Mathematica Policy Research, Inc.

***Participation in career development activities is high.*** Among seniors in the 1996 baseline cohort in the in-depth study states, the student survey showed that almost 80 percent had at some time in high school completed interest inventories, more than half had gone on a worksite visit with a school group, and about a quarter had done job shadowing at least once (Figure 1). About 63 percent of all seniors could be described as having a comprehensive set of career development activities, in that they reported having met at least four of five participation criteria. These five criteria include talking to school staff about career plans[2] and four other "activity criteria": (1) completing an interest inventory, (2) attending talks by employers at their school, (3) taking a workplace readiness class and (4) going on either a worksite visit *or* a job shadow organized by their school.

***For individual students, however, career development activities are typically occasional and unconnected.*** Many partnerships are emphasizing broad participation in job shadowing, but the intense organizational effort required to get a large number of students to a workplace so far has limited attention to making the experience part of a coherent sequence. In the 1996 site visits, there were few examples found where various activities--interest inventories, worksite visits, and job shadowing--are linked coherently for individual students in a progression of more focused exploration.

[2]About 87 percent of the 1996 seniors had talked to teachers, counselors, or other staff about careers (not shown in Figure 1).

## RESHAPING CURRICULUM: CHANGES IN SCHOOL-BASED LEARNING (Chapter IV)

The STWOA promotes several approaches to organizing and delivering school-based curriculum that, in their most ambitious forms, could reshape high school environments, how students plan their studies, and how students' performance is assessed. Three elements are stressed in the legislation:

1. ***Career Majors.*** Career-focused programs of study, or "career majors," are expected to engage students in course sequences designed as purposeful steps toward postsecondary employment or further education and, ultimately, toward a broad career goal.

2. ***Curriculum Integration.*** Academic education and vocational education are to be integrated, combining the best practices of both.

3. ***Skill Standards.*** Challenging specifications of the skills students need to master to enter particular careers are to be incorporated into academic and technical instruction, and high academic standards are to be applied to all students.

***Career majors are a lower early priority than other STW components in most states and local partnerships.*** Two of the in-depth study states (Oregon and Wisconsin) have set goals for student participation in career-focused programs of study whereas four have established goals for participation in work-based learning. Career majors are a lower priority for three reasons. Schools have already had considerable experience with career development and forms of work-based activity, and they naturally focus early efforts on components that have an existing foundation. Career majors represent a substantial departure from most schools' practices and often are perceived as tangential to education reforms that focus on academic performance and school accountability. The concept of career-focused programs of study is often associated with vocational education; parents and students often see them as reducing options for postsecondary study.

***Selecting a career focus rarely determines students' high school studies.*** In some partnership schools, students are asked to express tentative career interests in ninth grade, and counselors may as a result suggest course electives. Other schools prepare lists or tables showing suggested academic and technical courses for students interested in various career areas, and counselors use them as a resource in guiding students' course choices. The most fully developed career major is a defined program of study; students who choose a broad career area are in effect choosing a sequence of courses. Students in such programs of study are often clustered in some key classes (such as math and a vocational course) to maximize opportunities for tailoring curriculum to career interests and for blending technical and theoretical instruction. These programs of study are the least prevalent of the "career focus" models.

***Student involvement in defined programs of study that integrate academic and vocational curriculum was relatively uncommon for the 1996 baseline cohort.*** A large fraction (43 percent) of 1996 seniors in the eight states' partnerships had expressed a career interest in response to a query by school staff. However, only 17 percent of seniors had ever taken an English, math, or science course specifically designed for students with their career interest. About 12 percent reported they had ever had an assignment in such a class concerning the career area they had chosen. The case study site visits

identified some career-focused programs of study that may affect this participation rate for later cohorts. So far, these defined programs of study are usually built on existing Tech-Prep, youth apprenticeship, or career academy programs. They are often organized around specific occupations (such as metalworking or carpentry), rather than around broad career clusters (such as health services or industrial technology).

***Integration of academic and vocational instruction is widely pursued, sometimes emphasizing methodology more than challenging content.*** We distinguish three broad approaches to curriculum integration: (1) incorporating applied forms of instruction and career content into academic classes, to involve students more in problem solving; (2) emphasizing math and communications skills and scientific principles more heavily in vocational courses; and (3) linking academic and vocational instruction through cross-course tasks and projects. "Integration" has become a popular but often vaguely defined objective, and sometimes the aim of creating challenging experiences is overshadowed by enthusiasm for new teaching approaches such as collaborative or project-based earning and hands-on applications. Professional development for teachers on curriculum integration is reaching many teachers; however, it is often brief and allows little time for creating curriculum materials.

***Efforts are being made to raise academic and vocational standards, but in most states these efforts are for now somewhat peripheral to STW priorities.*** In several in-depth study states, efforts to raise academic standards through state reforms emphasizing school accountability and proficiency testing have absorbed the attention of some local schools. This has made it difficult for some of them to focus on STW concepts at the same time. Some national industry skill standards are in use, mostly in specific occupational programs rather than as part of broadly defined career majors.

## LEARNING BY WORKING: STUDENTS' WORK-BASED ACTIVITIES (Chapter V)

Work-based activities are widely regarded as an essential STW ingredient: a way to inform students about careers, motivate them to succeed in education, and help them develop skills they will need. Brief job shadowing experiences serve career awareness and motivational purposes. To help students develop general workplace skills and technical skills, however, the STWOA also envisions extended, paid activities combining work experience with instruction related to various aspects of an industry. Worksite activities are to be linked to school curriculum, so students can see how the skills they learn in class are needed in the workplace and have a chance to apply them.

***Developing work-based activities is the top priority of most local partnerships.*** Four in-depth study states have set participation goals, aiming for 50 to 100 percent of all students to have some kind of work-based learning experience. These goals have stimulated local effort. Employer recruitment is often the primary assignment of partnership staff and a major role for employer intermediary groups such as chambers of commerce. Several states have recently established tax credits or wage subsidies to encourage employers to offer intensive workplace opportunities. Later stages of the evaluation will clarify their effects on employer participation.

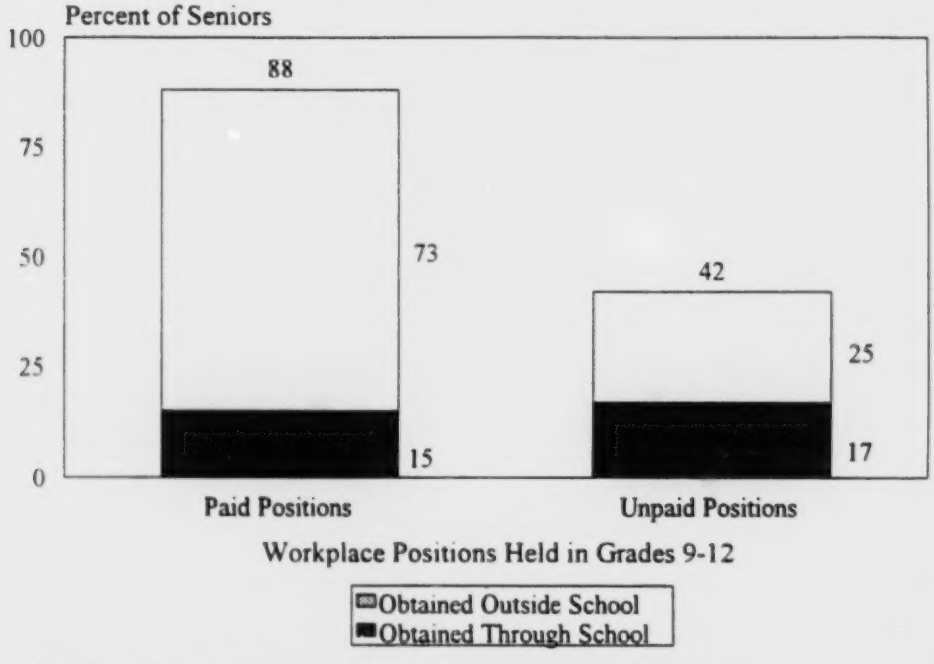
***Local constraints typically limit emphasis on paid positions with structured training and work experience--the idealized form of workplace activity emphasized in the STWOA.*** Graduation requirements and students' after-school schedules often leave little room for such workplace activities through STW programs. Employers like to be selective; even large firms typically accept just a few students. Unions and employers are reluctant to place students in some production environments due to

concerns about safety, liability, and worker displacement. Recruiting enough employers for large numbers of such worksite opportunities, and placing and monitoring large numbers of students, are beyond the capacity of the limited staff available for these tasks in the current stage of STW implementation.

***As a result, partnerships are currently giving greater emphasis to other forms of work-based learning.*** The most attention is given to expanding brief job shadowing. Unpaid internships, training apart from the production setting, and school-based enterprises are also ways that partnerships are pursuing some of the goals of work-based learning while reducing cost and transportation difficulties and avoiding safety, liability, or displacement issues.

***At this early stage in STW implementation, partnerships and schools play a relatively modest role in arranging the more intensive workplace activities that students obtain.*** Many students have jobs and various unpaid workplace experiences, but most obtain them on their own. About 88 percent of the baseline 1996 cohort of seniors in the in-depth study states' STW partnerships had at some point in high school held a paid job, but just 15 percent had ever obtained one through school (Figure 2). About 42

FIGURE 2
PARTICIPATION IN INTENSIVE WORKPLACE ACTIVITIES

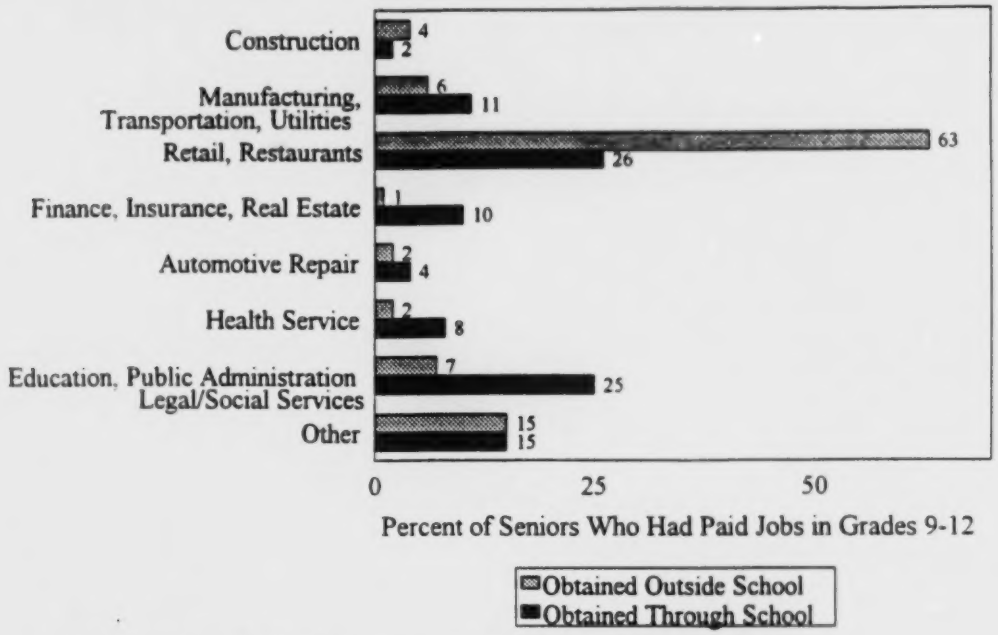



SOURCE: 1996 survey of 12th graders conducted by Mathematica Policy Research, Inc.

percent of the seniors had ever had an internship, volunteer position, or unpaid training; 17 percent of the seniors had found such opportunities through a school program.

***Workplace opportunities that students get through school are of higher quality than opportunities they find on their own.*** Students in the class of 1996 who had found jobs or internships through school had worked in more diverse industries and occupations (Figure 3). They were more likely to work in industries related to their expressed career interests, although achieving this goal is still often a challenge. Students in positions found through school spend more of their time learning and practicing skills as

FIGURE 3
INDUSTRIES IN WHICH STUDENTS HAVE PAID WORKPLACE EXPERIENCES




SOURCE: 1996 survey of 12th graders conducted by Mathematica Policy Research, Inc.

opposed to doing regular production work, and are more likely to get training in a structured classroom or workshop setting.

***Some links between school and worksite learning are common, but they are often of limited depth.*** Of all surveyed seniors in the baseline 1996 cohort who had gotten a paid or unpaid workplace position through school, about half had written an essay or completed a classroom assignment that drew on experiences or skills they had learned in the workplace. However, students who found positions on their own also frequently reported such links. The case study visits suggest that these assignments often make only vague connections to worksite activity--in tasks such as, "Write an essay about your job"--particularly if students are not part of a defined program of study that groups them in academic classes by their career interests. A more thorough link might include, for example, a business class assignment to research ethical standards affecting banking practices for students doing internships in banks. The frequency of more thorough links will be gauged in later student surveys and site visits as implementation continues.

Similarly, integrating assessment of workplace performance into school grades was common for the baseline 1996 cohort, but not necessarily in-depth. Although 58 percent of the students who ever obtained a paid or unpaid position through school said that school staff received some kind of assessment of their worksite performance, only about a quarter of those students said that school and employer staff ever spoke to each other about their performance.

***About 16 percent of the 1996 baseline cohort of seniors had participated in what could be described as a "linked workplace activity."*** These were students in the first survey who had ever (1) held a paid

job or unpaid internship or volunteer work, obtained through school or on their own; (2) completed an assignment in an academic class using information or skills acquired during that work-based activity; and (3) had their performance in that work-based activity count toward a grade at school.

Site visits suggest that students are most likely to be involved in intensive workplace activities with more thorough links to the classroom if they are participating in programs structured around vocational education, such as youth apprenticeships and enhanced co-op education programs.

## ENCOURAGING LARGE SCALE PARTICIPATION IN DIVERSE STW ACTIVITIES (Chapter VI)

The vision of a STW system implies more than expanding separate programs and activities designed for particular target groups. The aim instead is to make it possible for a large number of students, with diverse backgrounds and abilities, to have coherently related experiences that help them develop a career goal and begin preparing for it. Thus, an important measure of success in creating a STW system will be the level of participation in a combination of STW activities. Over time, the fraction of students who are "multiple component participants" should grow if STW programs are in fact becoming a STW system. There should also be evidence over time that these participants have varied career interests, educational aspirations, and family and educational backgrounds.[3]

***Baseline patterns of student participation in STW components reflect both early implementation priorities and initiatives begun before the STWOA.*** Broad participation exists in activities that serve career awareness objectives, in part because many states were already promoting comprehensive career development models. The emphasis on workplace activity in early STW implementation has reinforced this pattern by promoting brief job shadowing experiences for large numbers of students. Career majors are a lower priority, and a variety of practical constraints limit expectations expressed by local partnership staff for widespread participation in more extended workplace activities.

***There is wide participation in some STW components, but few students in the baseline 1996 cohort had participated in multiple STW activities.*** Almost two-thirds of 1996 seniors had participated in career development activities (Figure 4). About 12 percent had been involved in something like the career major concept promoted by the STWOA--choosing a career focus for their high school studies, being grouped with other students who have similar career interests, and having classroom assignments related to that career interest. About 16 percent had a "linked workplace activity" that went beyond brief job shadowing or worksite visits. The intersection of these identified groups--the students who had engaged in all three of these components--amounted to two percent of 12th graders in the in-depth study states' STW partnerships.

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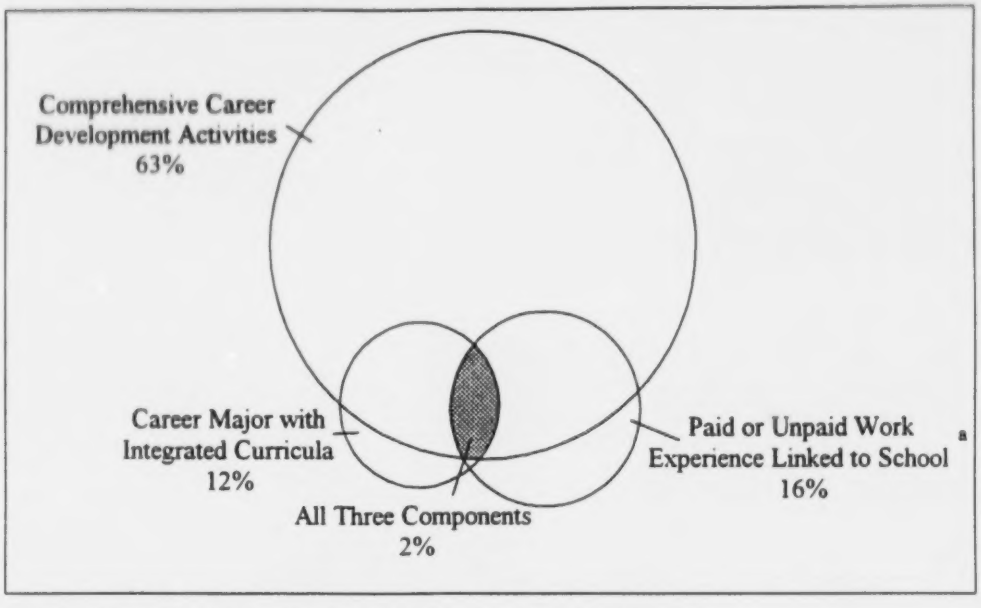
[3]We are collecting students' high school transcripts, and these will provide a basis for analyzing the academic ranking and performance of students who, on the basis of their survey responses, are described as "multiple component" participants. Such analysis will be presented in later reports. Follow-up student surveys will also reveal the relative rates of participation in particular STW activities for students who pursue postsecondary education and those who do not.

FIGURE 4
STUDENT INVOLVEMENT IN KEY STW COMPONENTS


Comprehensive Career Development Activities 63%
Career Major with Integrated Curricula 12%
All Three Components 2%
Paid or Unpaid Work Experience Linked to School 16%
a

SOURCE: 1996 survey of 12th graders conducted by Mathematica Policy Research, Inc.

[a] Work experience is considered "linked" to school in this analysis if workplace performance counts towards school grades and class assignments draw on the workplace experience.

A low rate of participation in multiple STW components in 1996 is not surprising, for several reasons. First, states typically have set priorities on certain system components, rather than seeking to expand all at once. Second, implementation challenges have so far limited partnerships' and schools' capacity to involve large numbers of students in career majors or intensive workplace activities linked to their school program. Third, most expansion efforts currently are focusing on building the capacity to deliver each component separately. Only in small, targeted, and usually selective programs are local partnerships concentrating their efforts on combining a variety of integrated STW experiences for particular students. The "multiple component participation" rate for 1996 seniors, moreover, was unlikely to be affected by early STW implementation efforts, which are more likely to be affecting the classes of younger students that follow. Follow-up student surveys will also reveal the relative rates of participation in particular STW activities for students who pursue postsecondary education and those who do not. How this rate grows in the 1998 and 2000 student surveys will be an important measure of whether STW systems are gaining strength.

## MAKING LOCAL PARTNERSHIPS WORK (Chapter VII)

The STWOA sets forth the premise that local cooperation among institutions and groups concerned about education and employment will help students prepare for future careers. It is assumed that most students need education or training beyond high school, and that cooperation between high schools and postsecondary institutions will increase the number who get it. Ties between employers and schools are

seen as promoting opportunities for career exploration and workplace learning. Other organizations, such as labor unions, are also considered essential partners.

***At this early implementation stage, schools and employers play more active roles than postsecondary institutions in STW partnerships.*** STW funding is most often funneled through school districts, and secondary school staff are usually most actively involved in planning STW components and working with employers. Postsecondary institutions serve as partnership coordinators in just 6 of the 39 local partnerships in the in-depth study, usually where a community college is building on its earlier role as the hub of a Tech-Prep consortium. In many local partnerships, however, the role of postsecondary institutions remains vaguely defined.

So far, efforts involving postsecondary education that are relevant to STW implementation are focused mostly on promoting college enrollment. Quite independently of its STW strategy, for example, Massachusetts has made it possible for students to get conditional admission to a four-year state campus when they are admitted to a community college, making it easier for them to choose a less expensive two-year program without feeling they are lowering their chances for a bachelor's degree. Oregon is aligning admissions criteria at two- and four-year state colleges with assessments that will be used in awarding Certificates of Advanced Mastery (CAMs) in each career strand or major.

At the local level, the role of postsecondary institutions often focuses on strengthening articulation with high schools. However, most partnership staff acknowledge the long-standing concern that students do not take advantage of articulation in substantial numbers. Many students go to colleges that are not included in articulation agreements or prefer to repeat courses for which they could get transfer credit. Colleges typically have not yet created systematic and reliable procedures to identify students eligible for articulated credits when they matriculate.

***Employers are playing active roles in local partnerships.*** Employers and employer organizations are participating widely in governing boards of local partnerships; in about a quarter of the in-depth study sites employer representatives actually chair these bodies. Employers are increasingly offering varied forms of workplace learning opportunities. They are also often helping schools fulfill their roles more effectively. For example, by hosting teachers and counselors in internships, they help school staff get a clearer grasp of modern career options their students face and help them gather material to use as they develop curricula that relate academic skills to the career contexts in which they are applied.

***However, partnerships face a major challenge to recruit large numbers of employers.*** Hosting students in workplace learning puts strains on employers: fitting them into worksite environments and schedules; accommodating legal restrictions, safety concerns, and union reservations; and absorbing the cost of trainers and mentors. Employer recruiting will have to expand participation manyfold beyond 1996 levels if the goals states are setting for workplace activity are to be realized.

***Development of information systems to manage a large workplace component is beginning.*** As partnerships recruit more employers, it becomes imperative to avoid having individual schools, potentially from multiple districts, burden the same employers with competing requests for workplace slots. It also becomes important to have ready access to information about workplace opportunities and to be able to match them with students' interests, skills, location, and schedule. Interest in employer databases is therefore widespread, but sophisticated efforts to build systems that support these functions are rare so far. In Oregon, partnerships are already implementing ambitious information systems that allow them to keep track of available workplace opportunities and reserve them for students. More commonly, however,

databases are so far designed as simple directories of participating employers, rather than interactive management information tools.

***Organized labor is so far playing a limited role at the state and local level.*** Examples can be found of unions making important contributions, particularly in developing materials to help students learn about the role of unions in the workplace. However, several factors appear to be limiting labor's role. In some places, unions have been reluctant to support youth apprenticeships, for fear they will be confused with formal registered apprenticeship programs. Concern about the potential for displacement of older workers continues to dampen enthusiasm for involving large numbers of students in unionized workplaces. In some partnership areas, there is simply little union presence.

***Organized parental involvement is so far uncommon.*** Partnership boards often include parents of children in local schools, but it appears uncommon for parent organizations to be formally represented. However, parent volunteers are often involved as speakers in classrooms and sometimes help with workplace visits or provide information on postsecondary options. In two of the in-depth study states, there has been organized opposition to the idea of STW systems from a small percentage of parents who object to what they perceive as attempts to force students into particular careers to serve the needs of industry.

***The long-term roles and sustainability of local partnerships are not yet clear.*** STW partnerships often span large areas with numerous school districts and many employers. Wide-area partnerships can be useful by broadening opportunities for students beyond what can be found within a school district. Many are already playing a useful role in identifying needs for professional development and organizing its delivery, and in promoting exchange of ideas and information among partners. In relatively few cases, however, are partnerships so far acting as a catalyst for formulation of consistent policies, procedures, and program models, in large part because of the strong tradition of local control of schools. Many partnerships, of course, are in the process of developing their role and the functions they will perform. Over the next several years, it will become clearer whether partnerships as distinct entities provide something to schools and employers that they cannot do on their own or in simple bilateral relationships.

## EMERGING ISSUES FOR THE FUTURE (Chapter VIII)

The long-term place of the school-to-work concept in American education is not yet clear, but the hurdles that must be cleared to accomplish positive, lasting reforms are coming into focus. Many states just began this year to form state-level strategies and encourage STW systems at the local level. Many local partnerships are new and are still working to form a consensus on what STW means and how partners can contribute. Nevertheless, the experience to date suggests five issues whose resolution over the next several years will shape the final conclusions of this evaluation.

***Can states fit STW in a coherent policy framework?*** Will the key components of STW systems as envisioned in the STWOA become central elements of state strategies for education reform and school improvement? STW concepts are central to education reform in Oregon and Kentucky, for example, but more tangentially related or even in competition with education reforms in other states. It also remains unclear how closely STW as an education reform will--or should--be tied to policies for workforce development and training for to adult populations.

***Can intensive work-based learning become commonplace?*** As states and local partnerships begin trying to expand such activity, they are encountering constraints: on students' available time, on the number of employers willing to make such positions available, on the resources needed to develop and monitor workplace activity, and on parents' willingness to have their children commit to workplace programs. It remains to be seen how prevalent intensive workplace activities such as internships and youth apprenticeships will become at the high school level.

***Can workplace learning be made meaningful to all students?*** The career focus of most intensive workplace activities may turn some students away, because they and their parents view high school as a time for building a foundation of knowledge and skills, but not for choosing where they will be applied. Yet workplaces could offer opportunities to learn and apply sophisticated skills whose eventual utility to the student may lie in totally unrelated work settings. A major challenge is to create workplace learning opportunities whose value and appeal stem from the intellectual challenges they offer rather than the career areas in which they occur. Such opportunities might be carried out more in schools than in workplaces but use the workplace as a stimulus and "test-bed" for students' practice in data gathering and analysis, and even as an audience for their findings. Some examples of such approaches to linking school and the world of work were found even in this early stage of STW implementation, but it remains a question whether they will become widespread and make up for difficulties in expanding more intensive forms of workplace learning.

***Can school curriculum be consistently built around career themes?*** Two approaches have so far been taken to developing what the STWOA calls career majors: (1) a "progra foundation" model, which builds on programs originating in vocational education, like youth apprenticeships; and (2) a "school restructuring" model, in which entire schools are reorganized into houses or academies with broad career themes. Both have strengths and disadvantages. The former builds on popular programs, but so far typically attracts the relatively few students willing to make fairly specific commitments to particular occupations. The latter typically encompasses more broadly defined career areas and holds strong promise for integrating technical and academic studies for a broad range of students. However, it requires revamping whole schools. It is uncertain at this point how widespread either approach will become.

***Will STW partnerships become important institutions?*** As recipients of federally funded grants, local partnerships can be expected to play visible roles in the short term. In the long run, they will be important only if they perform functions that schools, employers, and other partners value and cannot perform satisfactorily on their own. The ultimate question is whether the partnership concept, after the expiration of federal funding, will be supported financially and sustained. Later stages of the evaluation in-depth studies will focus to a large extent on the evolving role of local partnerships, how central they are to partners' vision of the future educational system, and what resources will support that vision.

# I. INTRODUCTION

In our schools, families, and communities, we prepare our youth for later life. For most Americans, this means productive employment and a career. Whether by design or not, the experiences we have at all stages of our upbringing and education shape the skills, attitudes, and goals that we carry with us when we enter the world of work. All of our educational institutions--schools from the elementary to the secondary level, colleges and universities, training institutes, and a wide array of "second-chance" programs--contribute to the skills, interests, and personal choices that determine what we do and how well we perform as working Americans. Experiences outside of school, including recreation, work, and volunteer service, can also contribute in important ways to our development.

There is wide concern, however, that our country's formal system of education too often fails in the part it plays in this process. Employers complain that young job candidates lack motivation and basic skills. Many students complete high school and even college degrees with little sense of career direction or marketable skills. Others drop out of high school and face even more limited job prospects than do graduates.

The School-to-Work Opportunities Act of 1994 (STWOA) was passed to address these concerns. The STWOA provides grants to promote partnerships among educators, employers, labor organizations, and others to create School-to-Work (STW) systems that will better prepare American students for their future. The same legislation mandated a comprehensive national evaluation of the implementation of these systems. The evaluation is being conducted by Mathematica Policy Research, Inc., and its subcontractors MPR Associates, Inc., and Decision Information Resources, Inc. The evaluation is being conducted under contract to the U.S. Department of Education, with the support of its partners in the STW development effort, the U.S. Department of Labor (DOL) and the national School-to-Work office. The evaluation, begun in late 1995, will be completed late in the year 2000.

This report describes the beginning of the process envisioned in the STWOA. The STWOA provides "seed money" for what was expected to be a complex change process. At this early stage of implementation efforts, we can expect to see only the germination of STW reforms. This report is a description of very early progress toward long-term goals, rather than a judgment of the ultimate consequences of the STW legislation. The report's major findings are summarized in Table I.1

Later reports during the five-year evaluation will provide further evidence of whether STW systems represent significant and lasting change. This introductory chapter summarizes the motivation and provisions of the STWOA, the design of the national evaluation mandated by Congress, and the objectives, organization, and major themes of the report.

## A. THE SCHOOL-TO-WORK OPPORTUNITIES ACT: BACKGROUND AND PURPOSE

The STWOA responds to accumulating concerns about the preparation of American youth for productive life in a competitive society and world economy. Substantial fractions of American students, especially among minority populations, still fail to complete high school; in 1994, 11.5 percent of all Americans ages 16 to 24 were neither high school graduates nor students (U.S. Department of Commerce 1994). Many who do graduate leave high school with few marketable skills and no sense of career direction. Even students who go on to postsecondary education often do so with little idea of what kind of career they might want to prepare for. High school and college graduates often spend years struggling to identify a career path they might follow and finding a foothold in it. At the same time, global competition and the increasingly technological nature of our society demand that American youth acquire advanced skills if they are to find a productive career and earn the kind of decent standard of living most Americans have come to expect. The consequences of not doing so are unemployment and low income; unemployment among recent high school graduates with no further education has risen sharply, and real incomes have declined dramatically since the mid-1960s (Berlin and Sum 1988).

TABLE I.1

SUMMARY OF EARLY FINDINGS FOR EIGHT IN-DEPTH STUDY STATES: FIRST STEPS TOWARD SCHOOL-TO-WORK SYSTEMS

| |
|---|
| ***States have taken some early steps to create a system infrastructure.*** Most of the eight states have created career development models, and several have created incentives for employers to provide workplace activities. A few states have embedded STW concepts in education reforms, but in some the emphasis on academic performance and school accountability appears to compete with, rather than complement, mandates to increase workplace activity, and overshadows attention to developing career majors or curriculum integration. (See Chapter II.) |
| ***Activities to improve students' career awareness are the most widely available STW component at this early stage.*** Few schools, however, so far deliver a coherent developmental progression. Efforts to promote career guidance began before the STWOA and are now supplemented by large-scale efforts to promote job shadowing. The first evaluation student survey--a baseline study of 1996 high school seniors--found that almost two-thirds took part in a combination of career development activities, but at this stage these activities are often isolated events rather than a coherent sequence. (See Chapter III.) |
| ***Changing and strengthening school curriculum is so far a lower priority than other STW components like career development and workplace activities.*** Concerted efforts to organize students' classes around a career area are so far evident only in Oregon and a few local partnerships elsewhere. In most states and partnerships, defined programs of study are found in small pre-STWOA programs that prepare students for specific occupations. There is wide interest in integrating academic and technical learning, but other priorities and a shortage of usable curriculum currently limit broad progress. Use of a few national skill standards is beginning, but some draft standards are for narrowly defined occupations, and thus more suitable for vocational programs than for broad career majors. (See Chapter IV.) |
| ***Many local partnerships are concentrating their early efforts on promoting workplace activity.*** Local partnerships have focused on expanding brief job shadowing but are just beginning to address constraints on expanding the more extended internships and work experience envisioned in the STWOA. About 16 percent of all seniors in the 1996 baseline cohort in the eight states' STW partnerships had had a paid or unpaid job or internship that was linked in even limited ways to their school classes. (See Chapter V.) |
| ***Student participation in some STW activities is common, but it is rare at this point for students to take part in the full array of career development, school-based career majors, and workplace activity linked to school curriculum.*** About two percent of 1996 seniors in the eight states' STW partnerships reported involvement in all three of these components. Future growth in this participation rate will be one important measure of the creation of a STW system. (See Chapter VI.) |
| ***The eight states have created a framework of local STW partnerships, but where they include multiple school districts and many employers the partnerships have typically taken modest steps toward common policies and practices.*** The sustainability of area partnerships will depend on whether they serve functions that schools and their own business allies cannot perform. The autonomy of local districts, interests in promoting school-based management, and the pressures of state education reform mandates often complicate efforts to formulate and implement consistent policies and practices in local partnerships. Postsecondary institutions so far are playing a less active and less clearly defined role than public school districts and employers. (See Chapter VII.) |

These concerns have led to intense scrutiny of how American education prepares our youth with the skills, knowledge, and habits they need to find a career path and satisfy expectations in the workplace. Since the early 1980s, researchers, educators, employers, and policymakers have sought ways to make education relevant to students' future careers, adapt instruction to the ways in which students learn best, and ensure that students learn the habits and skills that employers value. Ideas about how to change education were derived in part from research by cognitive psychologists and educators in the 1980s that emphasized the potential value of contextual learning (Raizen 1989). Awareness grew that students often viewed traditional methods of teaching (relying on lectures and rote exercises to improve skills) as irrelevant to their adult lives, and that these methods were ineffective for many students. By adding meaningful context from the world of work and increasing chances for students to apply theory as they learn it, educators hoped to engage the interest and intellect of students and help them learn more effectively. Whether learning by doing and in context happens at school, in a work setting, or both, educators hypothesized that improved career interest and achievement in high school might boost enrollment in postsecondary education and training.

By the end of the 1980s, strong support had developed for broad systemic change in education, grounded in these ideas. Some observers contrasted European youth apprenticeship systems with the lack of any systematic approach in the United States to preparing youth for the transition from school to work (Lerman and Pouncy 1990). Calls increased for educators and employers to work together to update school curricula, focus school programs on labor market skills that employers need, and link secondary and postsecondary systems to create "seamless" programs that would reduce redundant course work and promote students' advancement to higher-level skills (Parnell 1985). These interests led to passage of the Tech-Prep Education Act as part of the Carl D. Perkins Vocational and Applied Technology Education Act of 1990. Some states, school districts, and employers made innovative efforts to develop programs linking school-based learning with workplace activities. The U.S. Department of Labor stimulated innovation and

interest in such efforts by supporting 14 "school-to-work/youth apprenticeship" demonstration programs in the early 1990s (Silverberg 1996a). This broad interest in systemic change also fueled a movement, beginning in the late 1980s, to focus school counseling more on career preparation issues and to address the needs of all students.

The result, however, has largely remained a patchwork of old programs and small pilot initiatives. Cooperative education programs have long placed students in jobs intended to complement and motivate their school studies. Tech-Prep programs have been started in every state, linking secondary vocational programs to community college career programs and emphasizing practical, hands-on approaches to instruction in both technical and academic subjects. They continue, however, to take the form of either small, selective programs or diffuse efforts at curricular improvement (Silverberg and Hershey 1995; and Silverberg 1996b). Youth apprenticeship initiatives have sprung up in many communities, but most of these programs have a narrow technical focus, and so far usually serve (at most) a few dozen students per site; they do not necessarily entail systemic changes. Although these initiatives are all promising in their concept and vision, most remain small in scale and unconnected to each other or to the central goals of the school systems where they reside. They provide important opportunities for some students but do not form a system that can be relied on to help all students attain the personal, academic, and technical knowledge and skills they need to start a career or continue on an educational path towards a career.

### 1. STW Legislation Envisions Systemic Change Through Comprehensive Partnerships

The STWOA calls for knitting these initiatives into a true system and expects broad community partnerships to lead the way. The legislation envisions not simply expanding and improving specialized programs for particular groups of students, but changing the core mission of American schools. Schools are expected to make all students aware of their future career options and the demands and rewards these options pose, motivate them to plan their education toward a goal, and integrate classroom instruction with a progression of workplace learning opportunities. Schools are expected to raise the standard of

achievement required of all students, but to define students' success not only by test scores, but also by their ability to fulfill a productive working role in society. Existing programs may be part of the foundation for a STW system. However, they are to be coordinated so that individual students can have a coherent sequence of school-based courses and workplace learning opportunities that prepare them for the choices they must make and the demands of further education and their careers. To build a comprehensive system that spans school- and work-based learning, the federal legislation calls for broad partnerships at the state and local level. Employers are to assume major ongoing responsibilities as partners with educators, labor unions, parent groups, and others in defining, implementing, and overseeing STW systems.

Federal funding for STW systems is intended to stimulate state and local partnership efforts but not to provide ongoing support. States can receive funding for five years if they bring together in a collaborative effort the governor's office; state agencies responsible for economic development, employment, job training, postsecondary education, vocational education, and rehabilitation; private-sector employers; labor organizations; human service agencies; and others. States, in turn, are expected to award substate grants to local STW partnerships made up of employers, school districts, postsecondary educational institutions, labor organizations, and, possibly, other organizations (such as community based organizations, local government, parent and student organizations, teacher associations, registered apprenticeship programs, and vocational education entities). At both levels, defining and creating a STW system is expected to be a collaborative effort, rather than the work of schools remaking their own roles in isolation.

STWOA resources are to be used to develop particular components of STW systems outlined in the legislation. The law describes three broad domains in which change is expected:

1. ***School-Based Learning.*** Partnerships are expected to promote changes in the organization of students' studies. Schools are expected to create "career majors" that students select by the beginning of 11th grade, to integrate academic and vocational instruction, and to find ways to facilitate students' progress from high school to postsecondary education or training

programs. When students choose a career major, they should receive instruction in all aspects of the relevant industry, rather than only in narrowly defined occupational skills.

2. ***Work-Based Learning.*** STW partnerships are expected to create opportunities for students to engage in planned programs of work experience and training that are coordinated with their school-based studies, are relevant to the career majors they choose, and provide instruction at progressively higher skill levels. Students are to be linked with workplace mentors, get training in both technical and general workplace skills, and be exposed at the workplace to all aspects of the industry.

3. ***Connecting Activities.*** The legislation defines certain critical activities to link students' school- and work-based activities and to promote effective collaboration among the entities in local STW partnerships. Without specifying who should perform these functions, the STWOA calls for efforts to match students to work-based learning opportunities, link students with worksite mentors, and help students choose jobs, further education, or appropriate training when they leave high school. Some other activities (such as technical assistance to employers on how to work with students, assistance to schools and employers on how to integrate school- and work-based learning, and recruiting employers to active partnership roles) are encouraged to make partnerships more effective.

This report focuses on these legislatively defined components. It also focuses on career development activities, although the STWOA describes them as just one element of school-based learning. The legislation calls for career development activities beginning in elementary school and extending through at least the high school years. These activities are intended to promote students' awareness of careers, to give them chances to identify careers that might be of interest to them, and to help them gradually refine their interests. We consider these activities a high priority for evaluation, because their purposes are central to all aspects of STW systems and appear to be a major emphasis of early STW implementation efforts.

### 2. Substantial Funding Has Been Provided

To support development of STW systems, substantial federal funding has been provided (Table I.2). Even before passage of the STWOA, funds available under the Carl D. Perkins Vocational Education Act were used in early 1994 to make grants totaling $26 million to all states to help them plan STW systems and implementation strategies. In summer 1994, federal grants totaling $43 million were awarded on a competitive basis to eight states, and about $21 million directly to 44 local partnerships. In 1995, an

TABLE I.2

SUMMARY OF GRANTS UNDER THE SCHOOL-TO-WORK OPPORTUNITIES ACT
AS OF JANUARY 1997
(Grant Amounts in Millions of Dollars)

| | 1994 | | 1995 | | 1996 | | |
|---|---|---|---|---|---|---|---|
| Grantee Category | Number | Dollars | Number | Dollars | Number | Dollars | Total Dollars |
| **State** | | | | | | | |
| Development Grants | 52 | $26.0 | 25 | $14.0 | 15 | $3.0 | $43.0 |
| Implementation Grants | 8 | $43.0 | 27 | $161.0 | 37 | $268.6 | $472.6 |
| Total State Grants | | $69.0 | | $175.0 | 52 | $271.6 | $515.6 |
| **Direct Federal** | | | | | | | |
| Local Partnership Grants | 15 | $10.0 | 47 | $27.5 | 29 | $14.0 | $51.5 |
| Urban/Rural Opportunity Grants | 21 | $10.0 | 53 | $24.5 | 78 | $35.0 | $69.5 |
| Native American Grants | 8 | $0.5 | 20 | $ 1.2 | 26 | $1.8 | $3.5 |
| Grants to U.S. Territories | 7 | $0.5 | 7 | $ 1.2 | 7 | $1.2 | $2.9 |
| Total Direct Federal Grants | 51 | $21.0 | 127 | $54.4 | 140 | $52.0 | $127.4 |
| **Total Grants** | | **$90.0** | | **$229.4** | | **$323.6** | **$643.0** |

NOTE: This table includes grants made with Perkins Act and Job Training Partnership Act funds in fiscal year 1994 as well as grants authorized under the School-to-Work Opportunities Act.

additional $175 million was awarded, including additional planning funds and implementation grants to the original 8 states and implementation funding for 19 additional states. In early December 1996, further grants were made, including grants to 10 new states of almost $59 million and continuation grants to the 27 states already funded. Along with a parallel series of grants provided directly to local partnerships, Native American partnerships, and U.S. territories, this brought total funding awarded to over $643 million.

STW funding, however, remains a small increment to overall education spending. For example, the total of $175 million awarded to the first 27 state grantees in fall 1995 amounted to just one-tenth of one percent of overall spending on elementary and secondary education in those states for school year 1993-1994 (National Center for Education Statistics 1996). Nevertheless, STW funding is expected to help trigger far-reaching change.

Federal STW funding is clearly intended to stimulate state and local efforts that draw on broader resources and will extend beyond the period of federal grants. Although STW grants may support certain leadership and coordination functions at the state level, other resources from state agencies, employers, and other parties are expected to play an important part. At the local level, partnerships are expected to mobilize resources beyond what they receive in substate or direct federal grants. Regular school budgets, in-kind contributions from employers and labor organizations, state funding, and other federal funds can be expected to support the overall effort to develop STW systems. States and local partnerships will have to develop and rely on such other sources to sustain their efforts. The evaluation of STW implementation has a similarly broad objective. Rather than focusing on the particular consequences or effects of federal grants, the evaluation will document the progress that states and local partnerships make in developing STW systems, including aspects of their efforts supported by diverse resources.

## B. EVALUATION OF STW IMPLEMENTATION

This evaluation will eventually answer four broad questions about the realization of the goals of the STW legislation:

1. In what ways, and how effectively, have states created coherent STW systems of connected, sustainable practices and programs?

2. To what extent do the efforts of STW partnerships change what students actually do in their elementary, middle, and high school years?

3. What kinds of postsecondary education, training, and employment do students enter after high school, and how do postsecondary activities change as STW systems develop?

4. To what extent are the changes envisioned in the STWOA adopted and sustained on a large scale, with the potential to affect large segments of our student population?

### 1. Three Components of the Evaluation

To address these questions, the evaluation includes three main components for documenting the changes that occur as STW implementation advances:

1. ***Local Partnership Survey.*** This survey, to be conducted in fall 1996, 1997, and 1999, will document the characteristics and development of all STW partnerships, the roles of partnership members, and aggregate levels of student participation in key STW activities. The first survey, conducted in fall and winter 1996, included 906 partnerships that had been funded by July 1996.[1]

2. ***In-Depth Case Studies.*** Site visits in 1996, 1997, and 1999 will document how state and local partnership models have been planned, designed, and implemented in eight states (Florida, Kentucky, Maryland, Massachusetts, Michigan, Ohio, Oregon, and Wisconsin) and six local partnerships, in other states, that have received direct federal grants.[2]

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[1]The evaluation design calls for including substate partnerships only in the 27 states awarded implementation grants by fall 1995. The survey may be expanded, however, to include the 10 states that received implementation grants in late 1996.

[2]The 8 states were selected from among the 27 states that had received federal implementation grants under the STWOA by fall 1995. States were considered only if they had already formed local STW partnerships. Of the 15 that met that criterion, 8 were chosen to include diversity with regard to region, urbanicity, and when they received their implementation grant. Five of the selected states (Kentucky, (continued...)

3. ***Study of Student Experiences.*** Surveys of three cohorts of 12th-grade students (spring 1996, 1998, and 2000) in the same eight states will examine their experiences in high school: formulation of career goals, involvement in classes that integrate academic and vocational instruction, participation in workplace activities, and perceptions of links between school and workplace components. High school transcripts will be used to describe the courses students take and which student subgroups participate most heavily in particular STW activities (as identified by their grades, rank in class, and course-taking patterns, for example). Follow-up surveys will examine students' progress in postsecondary education, training, and employment.

## 2. Basis for the First Evaluation Report: 12th-Grade Survey and Site Visits

This report, the first of five scheduled annual reports, draws on the earliest data collected as part of the in-depth studies. It uses two major sources: (1) a survey of a random sample of students representing all high school seniors in the class of 1996 in the eight states' STW partnerships, and (2) site visits in spring 1996 to 33 local partnerships in the eight in-depth study states. Details of these two sources are as follows:

1. ***Student Survey Sample and Administration.*** A total of 31 STW partnerships were randomly selected from among the 207 existing partnerships in the eight states in fall 1995; they included urban, rural, and suburban partnership sites. Between two and seven partnerships per state were selected, depending on the size of the state's student population. Next, 69 high schools were randomly selected from these 31 partnerships, and 2,739 high school seniors in these schools were randomly selected. The survey was completed by 80 percent of the students. The students who responded reflect the demographic diversity of students in the eight states as a whole and the nation (Table I.3).[3]

2. ***Site Visit Sample and Data Collection.*** A total of 39 local partnerships were selected for the case studies--33 in the eight in-depth study states, and 6 direct federal grantees. The 33

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[2](...continued)
Massachusetts, Michigan, Oregon, and Wisconsin) received grants in the first funding round in 1994, and three (Florida, Maryland, and Ohio) received grants in 1995. Six direct federal grantees were selected in other states that had not yet received implementation grants (Idaho, Iowa, Nebraska, New Mexico, New York, and Texas).

[3]There are differences between the definition of the survey sample and that of the other two populations, so it is not surprising to find some divergence in their composition. The evaluation sample consists only of seniors, while the eight states' statistics are for students in grades 9-12. In addition, because the evaluation sample is drawn only in the eight states, it can be expected to differ somewhat from national data on high school seniors.

TABLE I.3

STUDENT CHARACTERISTICS IN THE EVALUATION SURVEY SAMPLE
COMPARED TO STUDY STATES AND THE NATION
(Percentage)

| Characteristic | Survey Sample (12th Graders) | Eight States (Grades 9-12) | Nation (12th Graders in 1992) |
|---|---|---|---|
| **Race/Ethnicity** | | | |
| Hispanic | 8.1 | 5.2 | 10.0 |
| Black | 12.9 | 15.4 | 11.9 |
| White | 71.9 | 76.8 | 72.7 |
| Asian | 3.4 | 1.9 | 4.5 |
| Native American | 0.6 | 0.5 | 0.9 |
| Other | 3.0 | n.a.[a] | n.a.[a] |
| **Location** | | | |
| Urban | 32.3 | 27.9 | 27.7 |
| Rural | 21.8 | 26.6 | 30.8 |
| Suburban | 45.9 | 47.4 | 41.5 |
| **Sample Size** | **2,203** | **516,286** | **2,460,537** |

SOURCES: Survey Sample: 1996 Survey of 12th-Grade Students, Evaluation of School-to-Work Implementation. Eight States: National Center for Education Statistics, U.S. Department of Education. Nation: National Center for Education Statistics, National Education Longitudinal Study of 1988, *A Profile of the American Senior in 1992*.

[a]In the NCES data, students are categorized only in the specific groupings listed here. In the STW evaluation survey, students were allowed to place themselves in an "other"category.

n.a. = not applicable.

substate partnerships overlap to a large extent with the student survey partnerships. To ensure four sites per state, however, the substate partnerships selected for the student survey were either supplemented with additional partnerships or narrowed (with the objective of ensuring a mix of urban, suburban, and rural sites in varying stages of development).[4] State-level visits included discussions with state STW directors, representatives of state agencies collaborating on STW development, and key employers and organized labor representatives. Local partnership visits of three to five days included meetings with partnership coordinators, governing boards, school district and postsecondary administrators, faculty at the middle school, high school, and postsecondary levels and alternative education providers, employers involved in the STW partnership, labor union representatives, parents, and students.[5]

## C. FOCUS OF THE REPORT

The complexity and diversity of the STW movement present particular challenges for evaluation of its progress. The STWOA itself seems to encompass and encourage almost all recent approaches to improving American schools and the outcomes students achieve. STW partnerships include diverse institutions and professional groups, with very different traditions and concerns, and often diverging interpretations of what the most important elements of a STW system are. Within individual states, within partnerships, among employers, and even within schools, conceptions vary concerning what a STW system should be. The level of effort and resources devoted to developing STW systems varies, no matter what frame of reference is adopted, as does implementation progress. Terminology used to describe activities of students, teachers, counselors, and employers is far from standardized. Those who are attempting to reshape how schools operate and the role employers play in working with schools can have very different views of how students' experiences are changing than do the students themselves.

Therefore, the first challenge of the evaluation (and of this report) is to create a framework for analysis. This framework must provide a basis for organizing presentation of evaluation results, distilling

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[4]These selections were made on the basis of consultations with state STW directors. In one state, Ohio, a fifth partnership was selected because there was some doubt whether one of the randomly selected partnerships would be able to fulfill the requirements for evaluation data collection.

[5]Detailed analyses of implementation progress in each state and each local partnership are presented in a separate volume (Hershey, Hudis, and Jackson 1997).

the inevitable complexity and diversity of the data to some clear findings, and recognizing the importance of alternative perspectives. It must also set priorities, since not every issue pertaining to STW implementation could be addressed in the first round of data collection or discussed in a first evaluation report. The framework for this report incorporates analytical distinctions on three dimensions: (1) the major parts of an STW system, (2) the perspective from which change is described, and (3) the distinction between programs and systems. The organization of this report and the types of analysis presented within its chapters reflect these dimensions.

**1. STW Components: What System Features Are Being Developed?**

The following five chapters of this report focus on documenting early steps to develop key STW system components as they are defined in the STWOA. Each chapter describes a particular facet of a comprehensive STW system. Chapter II examines the steps that the eight states have taken so far to define and create an infrastructure for statewide STW systems. Chapters III through VII present early findings on the development and importance of four main elements of STW systems at the local level:

1. ***Career Development Component.*** Chapter III describes efforts to create and strengthen activities for students that help them learn about the organization of work in society, particular careers, their own interests and aptitudes, and the paths they can follow to choose and build a career.

2. ***School-Based Learning.*** Chapter IV describes how schools are changing the courses students take and how students choose courses. The chapter discusses interpretations of "career majors" and the extent to which they are already being created. This chapter also describes efforts to integrate curriculum--to strengthen academic content and rigor in technical courses, link instruction in academic skills more closely to their application, and make school-based curricula respond to the demands that students will face when they enter the world of work.

3. ***Work-Based Learning Activities.*** Chapter V reports on efforts by local STW partnerships to develop and expand opportunities for students to learn at employer workplaces by engaging in paid or unpaid work, training, internships, and volunteer service and on attempts to connect them to students' school curriculum.

4. ***Linkages.*** The STWOA recognized that a STW system could not consist of isolated activities and programs, or institutions acting independently of each other. Chapter VI

presents an early reading on the extent to which various STW components are linked for students. Chapter VII focuses on the roles of local partnership members, the institutional connections among them, and how they work together to change students' experiences.

## 2. Two Perspectives: STW As Seen by Institutions and Students

Throughout the evaluation, we will examine change in the eight in-depth study states as seen from the perspective of its agents and its consumers. The agents of change are the leaders of STW partnerships and the people who serve in their member institutions: business and educational leaders, teachers, counselors, curriculum coordinators, worksite mentors and supervisors, and others. The consumers are students, those whose everyday experiences will change if the vision of STW systems is realized.

Site visits are the best available way to investigate the process of creating STW systems. The case studies provide insights into how schools and employers are trying to change and to work together, their objectives and the plans they are pursuing, and what they are doing to strengthen students' experiences and development. The site visits cannot, of course, provide systematic data on every school or employer activity in the case study partnerships. Each site visit inevitably focuses on just four or five school districts, and some partnerships include dozens of districts and schools. However, repeated visits will expand our understanding of partnership approaches and progress. In addition, the results from the local partnership survey will supplement the site visits.[6]

Systematic data collection from and about a representative sample of students will allow us to estimate the prevalence of student experiences and outcomes that the STWOA and local partnership leaders are promoting. The student survey is conducted with a sample drawn from *all* high school seniors, rather than from a subset of identified "participants." The survey can thus provide a rigorous measure of the rate of participation in career development activities, school-based learning, and workplace activities of the sort described in Chapters III through V. Survey data are used in Chapter VI to describe the extent to which

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[6] The local partnership survey will collect structured data, in all implementation grant states, about activities throughout each partnership.

students participate in the full range of those components. Of course, students may not recall school and workplace experiences in the same way their teachers, counselors, or workplace supervisors do. Since students are the target population, however, their perceptions of their experience are essential to understanding the progress of system implementation.

This report combines findings from these two perspectives. In Chapters III through VII we report on efforts to develop STW system components as described by employers, staff of partnership institutions, labor representatives, and other key actors. On the basis of site visit discussions, we describe the main approaches partnerships are taking, factors that affect their approach, and our assessment of the progress made in the very early stages of implementation efforts. We also use selected items from the first survey of 12th graders to show the extent to which students report having had these experiences during their high school years. However, this first survey focuses on students whose high school years, for the most part, preceded the initiation of local STW partnership efforts. Therefore, the survey results must definitely be regarded as the starting point or baseline against which the experiences of later student cohorts should be compared to gauge the consequences of STW system implementation.

### 3. Distinguishing Programs from Systems

The ultimate and most important conclusions of the evaluation will focus on whether a STW system has been created that serves the purposes envisioned in the STWOA. Efforts supported by the STWOA will certainly include the creation of new programs for students and the expansion and improvement of existing programs. We will note the development of these programs, particularly in the early stages of the evaluation. However, our focus over the course of the five-year evaluation is on the extent to which these programs form a coherent system at the statewide level and within local partnerships. Whether true systems emerge will determine whether STW concepts are firmly embedded in the way we prepare students for their future.

In judging whether a STW system is taking shape, we will focus on particular criteria, some most relevant at the state level, some at the local partnership level, and some at both levels. Indicators of effective system implementation at the state level would include creation of STW policies consistent with other relevant state initiatives and a statewide infrastructure of standards, definitions, incentives, and resources to guide and support local partnerships' development. Beyond these elements, we would expect to find the following characteristics at the local and state levels:

- ***Breadth of Participation.*** Do local partnerships engage the full participation of all of their member schools? Do employers participate in significant numbers and across varied industries? Do postsecondary and other community entities play active roles? Do large numbers of students, and a diverse group of students, get involved in the activities promoted by the STWOA? At the state level, do employers and labor organizations play instrumental roles in guiding and overseeing the system infrastructure?

- ***Consistency.*** Are state policies designed to promote the school- and work-based elements of a STW system central to and consistent with overall goals for educational improvement and workforce development? Do the members of local partnerships adopt and adhere to clear standards so that the school-based and workplace activities available to students are of consistent quality and value?

- ***Connectedness.*** Are STW activities for students available as disjointed programs, or in a progression that leads students from one stage to another, giving them opportunities to refine their career interests and acquire more advanced skills? Are the partnership members, in the roles they play developing and operating STW program components, acting in collaboration?

- ***Continuity.*** Do partnerships and their members adopt policies and create procedures to make STW activities established practice? Do the activities promoted by the STWOA become routine, so they can continue beyond early bursts of enthusiasm and withstand disruptions (such as turnover in staff who are instrumental in early development)?

- ***Sustainability.*** Have states and local partnerships created the necessary resources to continue programmatic features and institutional linkages beyond the period of their federal funding under the STWOA? Are the policies and programs created by STW reforms central to the function of schools? To what extent do employers make their participation in STW activities a part of their routine operations?

In this report, we examine early progress in meeting these criteria in three ways. First, in Chapter II, we discuss the consistency between states' STW and other related policies, and the steps states have taken to create an infrastructure of standards, incentives, and resources. Second, we examine student survey data

in several chapters, to examine how broadly students are participating. In Chapters III, IV, and V, we present baseline measures of the breadth of student participation in career development activities, school-based components, and workplace activity, and in Chapter VI we put these measures together to estimate what range of students is benefiting from all of these components. Third, in Chapter VII, we provide an early report on the way that local partnerships are fostering the features described earlier.

This first report is just the beginning of the story of STW system implementation, in several respects. Three of the eight states included in the case studies had just received implementation grants in fall 1995 and had not yet even completed the roll-out of substate implementation grants to local partnerships when site visits were conducted in 1996. Several of the local partnerships visited in 1996 had not yet received implementation grants, and others were still developing their strategies. The first student survey focuses on seniors in the class of 1996, whose high school experiences in earlier years primarily reflect opportunities that were available before implementation of the STWOA began. This is particularly true, of course, in the states that received implementation grants in fall 1995, where local partnerships had had little chance by spring 1996 to begin changes using STWOA resources.

Many provisions of the STWOA, however, build on ideas already being pursued at the local and state levels before passage of the legislation. Resources available under the STWOA can appropriately be applied to strengthening earlier initiatives and to knitting them together more cohesively. At any stage, therefore--now and in later years--a description of the status of STW systems will reflect efforts by states, schools, and their local partners made both before and after the STWOA. It will always be somewhat artificial to try to distinguish the "impact" of the STWOA from the continued progress of pre-STWOA initiatives. The focus of this report and later ones, therefore, will be to characterize, each year, how much has been accomplished, without trying to disentangle how much credit can be given to the STWOA. The work to develop STW systems has thus in many places just recently begun, and the status described in this report should be regarded as a baseline against which future change should be charted.

This report also draws on only part of the data that will eventually be collected. Although the report uses data from the first student survey, we do not yet have any postsecondary follow-up information or transcript data. Site visits have been conducted once, but most visits have explored only a fraction of the partnership districts and schools. Results of the first partnership survey, conducted in fall and winter 1996-1997, will not be available until the second annual report; this report, therefore, focuses only on the eight in-depth study states.

In this first report, some topics have been given higher priority than others. For example, more attention is given to changes occurring in secondary schools than in postsecondary institutions or middle and elementary schools. This decision reflects our initial judgment that the attention of local partnerships and the changes they are promoting are (at least for now) more concentrated in secondary schools and that it is important not to spread evaluation resources too thinly. However, later rounds of evaluation site visits will provide further opportunities to explore changes in the early school grades and in postsecondary institutions. Similarly, this report focuses more on changes affecting students who are in school (as opposed to out-of-school youth or older adults, whose interests are also a concern of the STWOA), because in-school students are the largest population potentially affected by STW systems and therefore the first priority of the evaluation.

Despite the early stage of STW implementation and of this evaluation report, it is clear that the STWOA--by its vision and the resources it provides--has set in motion widespread efforts to create workable partnerships and change how youth are educated. The full consequences of these efforts remain to be judged as implementation efforts continue. It is thus appropriate to end with a discussion of emerging issues rather than conclusive judgments. Chapter VIII identifies five important questions about STW systems. These questions are, in effect, the challenges that STW partnerships will have to overcome if their work is ultimately to be regarded as having produced valuable and important changes in how we educate our youth. Given the inevitable lag between the spring 1996 site visits and student survey and the

completion of this report, we have no doubt that states and local partnerships are already moving to advance beyond the status described in the following chapters.

## II. STATE STW IMPLEMENTATION APPROACHES

States are expected to be instrumental in building comprehensive, statewide STW systems. The state-level partnership called for in the STWOA is expected to create a statewide infrastructure for STW systems developed at the local level. This infrastructure, according to the legislative vision, would include a state-level administrative structure, statewide marketing, training and technical assistance for local partnerships, curriculum models, a skill certification process, and labor market information. To help states reach these goals, the STWOA offers them grants for up to five years to develop this infrastructure and support the creation of STW partnerships at the substate level.

The eight in-depth study states have taken some important steps towards creating statewide STW systems. Early findings about state STW systems are based on site visits in 1996--less than two years after five of the states received federal implementation grants and less than a year after the initial grant for three of the states. Findings at this early stage can be summarized as follows:

***EARLY FINDINGS ON CREATION OF STATE-LEVEL STW SYSTEMS***

- ***All eight states have taken some steps to create a STW infrastructure.*** No state's work is complete, but in varying degrees they have created incentives for employer involvement, improved secondary-postsecondary linkages, established technical assistance vehicles, and developed career development models.
- ***School-based and workplace components have received uneven attention in early state efforts.*** Due in part to where they have lodged STW administrative responsibility and to the difficulty of pursuing change in all areas at once, these states have focused more either on plans for strengthening school-based components or expanding workplace activity.
- ***In only a few of the eight states have STW reforms been made consistent with and a central part of a general school reform agenda.*** In several states, STW goals promote changes that appear to compete with mandates of other state educational reforms.
- ***Although states stress that STW systems are for all students, STW priorities arise largely from programs with origins in vocational education.*** Messages about career development stress universality, but plans for extended workplace components often are more targeted.

This summary of early efforts to create statewide system features is based on examination of three topics discussed in this chapter. Section A points out the administrative structures states have defined for STW and the specific steps they have taken to expand employer involvement, establish standards and guidelines for STW components, and create and support a network of local STW partnerships. Section B discusses how the choice of administrative structure and other factors have led most of the eight states, in their early implementation efforts, to focus more either on changing what students experience in school or creating and expanding opportunities for workplace learning. Section C describes how STW implementation efforts relate to other relevant policy and program initiatives in education reform, vocational education, and workforce and economic development.

## A. STEPS TOWARD STATE SYSTEMS

In their early efforts to create STW systems, states have made progress in three areas. First, as required under the STWOA, they have established policy-making partnerships at the state level to shape policy and oversee implementation. Second, they have created specific policies, guidelines, and resources to promote local partnership efforts consistent with statewide priorities. Third, they have established a framework for defining and funding STW partnerships at the local level.

### 1. State-Level STW Structures Established, but Some Still Being Strengthened

States are expected to create a state-level structure to guide, administer, and promote STW system development. Guidance for system development is expected to come from a broad partnership. This includes representatives of the private sector and officials from the full range of state agencies responsible for elementary and secondary education, postsecondary education, economic development, job training, employment, vocational education, and vocational rehabilitation, as well as the state councils established under the Carl D. Perkins Vocational and Applied Technology Education Act and the Job Training Partnership Act (JTPA).

The eight in-depth study states have all created such governing bodies to make STW policy and administer STW funding (Table II.1). These oversight bodies all bring together the key stakeholders identified in the STWOA. The composition of the Kentucky Workforce Partnership Council is a typical example. Established in 1994 by executive order, the council consists of 25 members, including the Commissioner of Education, the Executive Director of the Council on Higher Education, the Chancellor of the Community College System, the Secretaries for Economic Development and Labor, the President of the Kentucky Chamber of Commerce, the Secretary for Workforce Development, and representatives of private employers, the University of Kentucky, and the AFL-CIO.

Governors have taken two routes in creating these governing bodies. In some instances, governors have given oversight responsibility for STW to existing interagency boards already heavily involved in workforce development issues, such as the Michigan Jobs Commission and the Governor's Human Resource Investment Council in Ohio. In other states, governors have formed new boards or councils, such as Maryland's Career Connections State Management Team.

As the evaluation began to focus on states' STW implementation efforts in 1996, however, some state governance arrangements, or their relationship to substate governance, were still evolving. Florida, which had just received its implementation grant in fall 1995, had by summer 1996 established a STW Implementation Leadership Team with members from the state's 28 local partnerships, but had yet to name some state agency and nongovernmental representatives. Similarly, in Massachusetts, the governor's STW Advisory Council was not yet fully established. In Ohio, responsibility for STW had recently shifted to the Governor's Human Resource Investment Council from an informal planning team made up of representatives from the governor's office, the legislature, key employers and labor unions, and five state agencies. In Florida and Michigan, the structure that the state had established statewide for STW governance was in flux, because the process of creating local Workforce Development Boards was in mid-

TABLE II.1

IN-DEPTH STUDY STATES: GOVERNANCE AND ADMINISTRATIVE STRUCTURES AND FUNDING

| State | Governing Body | Administrative Entity | 1994 Grant[a] | 1995 Grant | 1996 Grant |
|---|---|---|---|---|---|
| Florida | School-to-Work Leadership Team | State Department of Education: School-to-Work Joint Service Office | | 9,100,000 | 18,200,000 |
| Kentucky | Kentucky Workforce Partnership Council | Workforce Development Cabinet: Office of School to Work | 4,000,000 | 8,000,000 | 6,000,000 |
| Maryland | Career Connections State Management Team | State Department of Education | | 4,200,000 | 8,4000,000 |
| Massachusetts | School-to-Work Executive Committee | Massachusetts Office of School to Work | 5,500,000 | 11,500,000 | 8,250,000 |
| Michigan | Michigan Jobs Commission | Michigan Jobs Commission: School-to-Work Office | 8,000,000 | 16,000,000 | 12,000,000 |
| Ohio | Governor's Human Resource Investment Council | Ohio School-to-Work Office | | 9,000,000 | 18,000,000 |
| Oregon | Workforce Quality Council | State Board of Education: School-to-Work Office | 3,000,000 | 6,000,000 | 4,5000,000 |
| Wisconsin | Interagency School-to-Work Cabinet | Department of Workforce Development[b] | 4,500,000 | 9,342,000 | 6,750,000 |

SOURCE: 1996 State-Level Site Visits. Grants amounts are as reported by the National School-to-Work Office.

[a]Five of the eight in-depth study states received their first implementation grants in 1994 and continuation grants in 1995. Three of the states received their first grants in 1995. Grants awarded to date have been funded out of appropriations for fiscal years 1994 and 1995.

[b]Before an agency reorganization effective July 1, 1996, Wisconsin's administrative entity for STW was known as the Department of Industry, Labor, and Human Resources.

course. In Michigan, 26 such boards were to replace the 44 earlier STW partnership boards as substate grantees.

## 2. Diverse State Policies, Models, and Resources Created to Promote STW

None of the eight in-depth study states has completed its agenda for creating state-level features of a STW system, but all of them have taken some important steps (Table II.2). Four types of statewide

TABLE II.2

| Early Features of State STW Infrastructure | FL | KY | MD | MA | MI | OH | OR | WI |
|---|---|---|---|---|---|---|---|---|
| Incentives for Employer Participation: Tax Credits or Wage Subsidies for Hiring Youth Apprentices | | | | | X | | X | X |
| Comprehensive Career Development Models for Age-Appropriate Activities in Elementary, Middle, and High School Years | X | X | X | | | X | X | X |
| New Secondary-Postsecondary Links: Easing Transfer from Two-Year to Four-Year Institutions, or Aligning College Admission Criteria With High School Assessments | | | | X | | | X | |
| Defined Career Clusters: Identification of Industries as Focus for STW Career Pathways/Majors/Strands | | X | X | X | | | X | X |
| State Technical Assistance to Local Partnerships | X | X | X | X | X | X | X | X |

system features (discussed in more detail in later chapters) have been created; some draw on earlier initiatives, while others were a direct result of the STW implementation effort:

1. ***Incentives for Employer Participation.*** Three of the eight states have adopted legislation that creates financial incentives for broad employer participation in STW partnerships (see Chapter V). Wisconsin provides state funds to pay half of the wages of student youth apprentices. Oregon and Michigan provide tax credits to employers who take on youth apprentices. Maryland has created a state-level employer incentive fund to support employer and industry association participation and requires similar incentive funds at the local level.

2. ***Comprehensive Career Development Models.*** Five of the eight states (Florida, Kentucky, Maryland, Oregon, and Wisconsin) have prepared comprehensive career development models that outline activities appropriate for students at the elementary, middle, and high school levels and either mandate or encourage their use in local schools to promote consistency (see Chapter III).

3. ***Strengthening Secondary-Postsecondary Linkages.*** All eight states have encouraged articulation between high school and college programs, particularly focusing on arrangements that allow students in high school vocational programs to earn college credit. About half of the eight states have policies defining dual enrollment, allowing high school students who exhaust their school's course offerings to take college courses. Two states have developed new policies to promote college enrollment. In Massachusetts, applicants accepted at community colleges who already have a clear interest in later attending a particular state university campus can get simultaneous conditional admission to the four-year institution. This reassures them that they will be able to transfer from the less expensive two-year institution to a university. In Oregon, successful completion of assessments linked to high school career majors will partially satisfy admissions criteria for the community colleges and state universities (see Chapter VII).

4. ***Definition of Career Clusters.*** Most of the in-depth study states have identified priority career clusters or industries for which career majors should be developed. Kentucky has identified 14 career areas, Oregon has defined 6 areas of career concentration, Maryland has defined 9 broad industry clusters, and Massachusetts has identified 12 target industries. Wisconsin has defined six "career pathways" that provide a frame of reference for career guidance.

In addition to these policies and guidelines, all eight states are providing technical assistance to local partnerships through a variety of delivery approaches. In several states (such as Oregon, Wisconsin and Maryland), the state STW office itself sponsors regular meetings for local coordinators and sends out technical assistance teams to local sites. State STW staff in Massachusetts and other states spend a substantial amount of time at local partnership sites providing tailored technical assistance. Several states, drawing on the national School-to-Work office model, have created mechanisms to help local partnerships get technical assistance from outside experts; Maryland has created a line of credit that local partnerships can draw on for that purpose. Kentucky, Florida, and Oregon have established interdisciplinary technical assistance teams using staff from the agencies represented on the state STW governing body. The state universities in Florida, Massachusetts, Michigan, and Wisconsin are playing a role in technical assistance.

### 3. States Have Almost Completed Creation of Substate Partnership Structures

An early priority for states was to establish local STW partnerships. To create a statewide STW system, such partnerships eventually must be created throughout each state, including all districts. States

have varied in two ways in their efforts to create a statewide structure: (1) in the use of intermediary regional entities, and (2) how they have funded STW partnerships.

**a. Several States Use Regional Substate Entities, but Their Roles Are Not Yet Firm**

All eight in-depth study states have designated or recognized local STW partnerships, but two have also created roles for intermediary regional bodies. Ohio has used its previously existing Industrial Training Program (ITP) to organize a regional structure of STW "alliances." In Massachusetts, Regional Employment Boards (REBs) are expected to help coordinate and monitor the work of the state's 41 local STW partnerships.

ITP coordinators in Ohio held regional organizational meetings to help participants establish regional priorities and nominate candidates for a regional board. The regional coordinators, in consultation with the state STW office, selected regional board members, paying special attention to ensuring sufficient representation from education, business, labor, parents, and other essential groups.

REBs, which are now independent of the JTPA private industry councils in the 16 service delivery areas in Massachusetts, are supposed to oversee STW implementation as part of their overall mandate to coordinate workforce development policy in their regions. The REBs were responsible for convening stakeholders and determining the number of local partnerships that would be formed in their region. Some expectations exist, at least among local partnerships, that the REBs will also help develop employer support.

It is too soon to tell whether intermediary regional organizations will play a substantial role in creating and sustaining STW systems. In Massachusetts so far, REB involvement in STW activities is fairly limited in most regions, partly because the definition of their responsibilities has been evolving. Another potential constraint is limited staffing; for example, some of the Massachusetts REBs have a one-person staff and have had to spread their resources among STW and other initiatives like One-Stop Career Centers. In Ohio, regional alliances were at first expected to play a central role in influencing the direction of STW

reforms in their regions. The role of the alliances so far has been considerably more modest, however, for several reasons: small budgets, lack of preexisting institutional relationships, reluctance of local partnerships to enter into regional sharing of employer contacts, and limited access to resources for technical assistance.

**b. Funding of Local Partnerships Now Widespread, but Some Still in Formative Stages**

States have had to devise their own "roll-out" strategy for distributing their STW implementation grants to local partnerships. Under the terms of the STWOA, states are required in the first year of their implementation funding to pass on a minimum of 70 percent of the funds in local partnership grants. In the second and third years, they must pass on a minimum of 80 and 90 percent, respectively. As required by the STWOA, all eight in-depth study states have awarded substate implementation grants on the basis of local partnerships' demonstration in their applications that they are ready to pursue STW objectives.

After distributing STW development and planning funds broadly, most of the states have selectively funded partnerships for implementation in several stages (Table II.3). For example, Maryland concentrated implementation funding in just 3 partnerships in the first year that it received a federal implementation grant, rather than spreading first-year funding across all 12 identified partnerships. Similarly, Oregon has rolled out implementation funding in three waves for its 15 partnerships, funding the last 5 in 1996. These multistage strategies have had the advantage of deferring major resource investments until local partners developed some understanding of STW concepts and a clear plan to work together consistent with overall state guidelines. Sometimes, however, this approach can give the impression that there are backwaters where STW implementation is not progressing. When funding is provided in the later rounds, special efforts are sometimes needed to energize the local partnerships and communicate a vision of what is possible based on the progress of more advanced partnerships elsewhere in the state.

Ohio's early state investment in youth apprenticeship projects (before it received federal STW funding in fall 1995) has required a substantial adjustment to address the broader aims of the STWOA. In 1994

TABLE II.3

FUNDING OF LOCAL PARTNERSHIPS IN IN-DEPTH STUDY STATES

| State/Grant Type | School Year | | |
|---|---|---|---|
| | 1994-1995 | 1995-1996 | 1996-1997 |
| Florida | | | |
| Development | 7 | 20 | |
| Implementation | | 8[a] | 28[a] |
| Kentucky | | | |
| Development | 13 | 4 | |
| Implementation | 9 | 18 | 22 |
| Maryland | | | |
| Development | 12 | | |
| Implementation | 1[a] | 4[a] | 10[a] |
| Massachusetts | | | |
| Development | 30 | 19 | |
| Implementation | 12 | 23 | 41[d] |
| Michigan | | | |
| Development | 44 | | |
| Implementation | | 44 | 26[b] |
| Ohio | | | |
| Development/State-Funded Pilots | 17 | 37 | |
| Implementation | | | 44 |
| Oregon | | | |
| Development | 10 | 5 | |
| Implementation | 5[c] | 5 | 5 |
| Wisconsin | | | |
| Development | 21 | 10 | |
| Implementation | | 21 | 31 |

SOURCE: Evaluation visits and discussions with state STW directors.

[a]Includes one direct federal grantee.

[b]Workforce Development Boards replaced STW partnerships; some partnerships were combined.

[c]Includes one region that received direct federal funding.

[d]Two partnerships funded separately in earlier years were merged for 1996-1997.

and mid-1995, Ohio had funded 15 "STW pilot projects" to strengthen vocational programs. These programs, modeled after European apprenticeships, were run by individual school districts and their employer partners and stressed intensive work-based internships for vocational students. Federal STW funding and the conception of STW in the federal legislation have led Ohio toward efforts to shift from these narrowly focused programs to more comprehensive partnerships working to affect a wide range of students. Incorporating this shift in requirements, and organizing a third competitive procurement soon after two rounds of competition for state funds, slowed the distribution of local partnership funding. In fall 1996, Ohio selected 42 "partnership prototypes" across the state and gave them small grants of $50,000 to $100,000. The state indicated that as many as 72 more small grants would be made in a later round. The modest size of these grants, the confusion that a quick succession of funding competitions caused, and the simultaneous efforts to create regional alliances have left uncertainty about the speed with which local partnerships as defined in the STWOA will form and begin developing STW components.

Throughout the eight states, substate grants provide a modest base for beginning the work of the local partnership.[1] Some partnerships in large urban areas receive sizable grants; for example, three partnerships in Michigan received over a million dollars in 1995, and the Boston partnership received $2.5 million over its first two years of funding. Many local partnerships, however, are doing their work with much smaller grants. In Michigan, for example, 12 of the state's 44 partnerships received less than $100,000 for the 1995-1996 school year. Funding at that level typically can support one professional staff person and associated costs.

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[1]Detailed data on the size of local partnership grants are being collected for all states as part of the local partnership survey and are not yet available, but information for several of the in-depth study states is available.

## B. ADMINISTRATIVE MODELS AND EFFECT ON STW PRIORITIES

The STWOA gives states wide discretion over how to carry out their role in creating STW systems. The law specifies that most implementation funding must be passed on to local partnerships; however, states have complete control over how to distribute grants among them. As long as they pursue the broad goals of the STWOA, states can establish their own priorities and designs and decide which local partnerships merit support and in what amounts. Congress mandated that states create broad partnerships at the state level but refrained from specifying which agency should administer the funds. Instead, the STWOA gives governors discretion to define the membership of the STW governing body at the state level, designate the STW fiscal agent, and assign administrative responsibilities.

The manner in which the states have used this discretion suggests two salient findings about early STW efforts in the eight in-depth study states. First, the choice of an agency to serve as the administrative home for the state STW offices has, in most states, reflected--or perhaps contributed to--a slant in states' emphasis in early STW efforts toward either school-based reforms or workplace learning. Second, efforts in a few states to create an independent STW office outside of preexisting partner agencies so far have created both challenges and advantages.

### 1. Choice of Administrative Agency Affects Emphasis on Schools or Workplaces

Governors have to choose an administrative vehicle to oversee the development of STW systems. Although STW systems are envisioned as partnerships and are guided by a policy-making board with diverse membership, an administrative entity must be responsible for the day-to-day work of funding local partnerships, coordinating the work of agencies and nongovernmental bodies, developing promotional materials, and many other details. Administration--including fiscal oversight and management, contracting, regulatory compliance, and personnel management--does not lend itself to collaborative structures. Governors have exercised strong influence over the course of STW system development, not only by naming the members of state-level boards, but also by deciding where to place the STW office.

Six of the eight in-depth study states have lodged primary administrative responsibility for STW in an existing agency--either their department of education or an agency with broad responsibility for workforce development (see Table II.1). Oregon, Maryland, and Florida have located their STW offices in the state education agency. Kentucky, Wisconsin, and Michigan have turned to workforce development agencies: the Kentucky Workforce Development Cabinet, the Wisconsin Department of Workforce Development, and the Michigan Jobs Commission (MJC). The MJC has even broader responsibility; incorporating units formerly in the Departments of Labor, Commerce, and Social Services, it has a broad economic development mission, focusing on making Michigan hospitable to employers through regulatory assistance, business development and financial services, and building the STW system.

The choice of administrative agency gives some indication of the states' relative emphasis on expanding workplace activities or on developing school-based components such as career majors, academic-vocational integration, or career guidance. For example, in Michigan the MJC is responsible for attracting and retaining businesses, and STW goals have emphasized workplace activities: expanding cooperative education programs, creating youth apprenticeships linked to registered adult apprenticeship programs, providing tax credits to employers for training youth apprentices, and developing large-scale job shadowing. The MJC sends teams on annual visits to firms with more than 100 employees to identify the needs of these firms and offer assistance; the same teams are supposed to encourage firms to provide workplace learning opportunities. State goals have been set for workplace activity: to provide at least one work-based learning experience for all high school students by 1999 (at least half of these paid) and to increase by more than 100-fold the number of students in registered youth apprenticeships. Wisconsin also appears at both the state and local level to be giving highest priority to providing workplace learning experiences (along with improving career-oriented guidance).

Maryland and Oregon provide counterexamples. In Maryland, STW efforts are adding to an earlier state emphasis on school reform. Before the state received a STW grant, the Maryland School

Performance Program was developing detailed and specific "core learning goals," including "skills for success," such as teamwork, problem solving, and communications, for incorporation in the mainstream academic curriculum. The Career Connections team's STW efforts have emphasized parallel changes in schools: establishing a new structure of career clusters to guide integration of academic and vocational curriculum and developing skill standards for 40 vocational programs in the next four years. In Oregon, defining career majors and promoting their use at the local level has been at the heart of the efforts of the STW office.

Although states may emphasize changes either in school-based curriculum or in workplace activity, they are not doing so at the complete expense of the other. In Michigan, for example, state goals also call for 40 percent of all students to be involved in a career major by 1999, and Wisconsin wants a third of its class of 2000 to have a career major. States like Maryland, Oregon, and Florida are promoting employer participation. Oregon, for example, has a fairly even balance, perhaps reflecting its longer experience with STW, the fact that its education reforms are built around workforce development, and the strong links between its governing Workforce Quality Council and the Department of Education. Nevertheless, the topics state STW staff focus on, the goals they are most involved with, and the emphasis visible in local partnership activity suggests that some kind of implicit choice of early priorities has occurred. The experience of the agency where STW administration is located, along with other factors, probably contributes to the emphasis we observe.

Priorities and implementation progress also reflect the vigor and focus of executive leadership at the state level. Several governors have helped to shape the direction and goals of the STW initiative. According to STW staff, Wisconsin's governor has been deeply committed to STW reforms and appears to have directly spurred planning, implementation, and participation by state agencies and even the state university system to a greater extent than in other states. Ohio's governor has been a strong advocate of STW programs (especially youth apprenticeship) as a key feature of the state's economic development

strategy. Michigan's governor, through the MJC, has been a visible presence in shaping STW implementation strategy and goals.

Competing concerns however, can dilute gubernatorial and cabinet-level attention. In Massachusetts, for example, although the commissioner of education is a declared supporter of STW reforms, neither the commissioner nor the governor has so far played a prominent leadership role or demonstrated a priority interest in guiding STW policy or system implementation. Other priorities have drawn their attention away from STW issues to matters like the state's overall education reform legislation (see Section C), welfare reform, and the governor's plan for reorganizing state agency responsibilities. In several other states, the involvement of the governor and cabinet-level executives in defining STW directions is not clearly visible.

**2. Independent STW Office Can Avoid Favoring One Agency but May Lack Leverage**

Because of the discretion they have over STW administration, governors can create an independent STW office outside of any existing executive agency. A governor might do this to avoid the appearance of favoring one agency's interests or of viewing one component of STW systems as more important than others. A STW office outside of existing agencies might have several advantages. It could be freer to establish a mission and a staff focused on STW reforms, unencumbered by previous history and other constraints. It might be less likely to favor established programs, procedures, or constituencies. Two states, Massachusetts and Ohio, have followed this route, gaining some of these advantages but also encountering, at least temporarily, some pitfalls in trying to make the most of this strategy.

The Massachusetts experience so far underscores the challenges such an independent STW office can encounter. The newly formed Massachusetts Office of School to Work operates outside the key partner agencies and must, to some extent, compete with other priorities on their agendas. Key staff at the Department of Education, for example, have been busy with the department's own education reform initiative; they have had little time to make STW priorities their own or to develop an interpretation of how STW components fit into the overall reform structure. The state's employment agency has been

downsizing and also trying to implement other workforce development initiatives such as One-Stop Career Centers. As a result, in the early stages of STW implementation, the STW office has operated more independently and with less agency support than its counterparts in other states.

Ohio also has experienced some initial difficulties in running a comprehensive initiative like STW implementation outside of a traditional administrative agency. The STW office operates under the guidance of the lieutenant governor. Most of its staff members have been on loan from four different departments; they report to both the STW director and their home departments. This arrangement seems to have left the STW office short of administrative resources, which contributed to difficulty establishing a clear set of priorities in the first year after award of the federal STW implementation grant.

## C. LINKS TO OTHER STATE POLICIES AND PROGRAMS

The STWOA seeks to promote systemic change, an ambition likely to be fulfilled only if STW reforms are part of a strategy for broad change in education, rather than narrowly defined program initiatives. Systemic change to achieve the objectives defined in the STWOA is likely to involve or affect a wide range of state and local constituencies concerned about education and workforce development and to interact with other education policy concerns. The in-depth study states have taken steps to form links between STW priorities and other state initiatives in general education reform, vocational education, and workforce development (Table II.4).

### 1. STW Embedded in General Education Reform in Two of the Eight States

Federal STW legislation and the vision it presents of how to change education emerged at a time when some states were already starting their own school reforms. In Oregon and Kentucky, such school reform initiatives already included at least some of the central system features promoted by the STWOA. In other states, attention is now being drawn to the importance of the relationship between general school reform and STW systems, but to some extent they remain parallel rather than fully complementary efforts.

TABLE II.4

EDUCATION REFORM AND ECONOMIC DEVELOPMENT INITIATIVES
LINKED TO SCHOOL-TO-WORK STRATEGIES

| State | Education Initiatives | Economic Initiatives |
|---|---|---|
| Florida | • Expansion of Tech-Prep<br>• Coordination with Blueprint 2000 (Sunshine State Standards) | • Planning Workforce Development Board<br>• Integration of One-Stop Career Centers, Welfare to Work, High Wage/High Skills Initiatives |
| Kentucky | • Coordination with Kentucky Education Reform Act (KERA) | • Considering Workforce Development Board<br>• Integration with One-Stop Career Centers |
| Maryland | • Expansion of co-op education<br>• Integration of STW with local school improvement teams<br>• Integration with School Performance Report | • Identification of sectors for economic growth targeted by School-to-Careers<br>• Development of career clusters |
| Massachusetts | | • Coordination of career cluster development with economic development |
| Michigan | • Expansion of co-op education and youth apprenticeship<br>• Charter school legislation helps start trade academies | • Local Workforce Development Boards are STW boards |
| Ohio | • Expansion of Tech-Prep and cooperative education<br>• Coordination of youth apprenticeship with registered apprenticeship | • Coordination of STW regional alliances with Industrial Training Program |
| Oregon | • STW integrated with Oregon Education Act, foundation for comprehensive education reform | • STW partnerships aligned with 15 economic development regions<br>• Workforce 2000 funds used to support STW pilot sites and other STW goals |
| Wisconsin | • Expansion of co-op education, youth apprenticeship, and Tech-Prep<br>• Education for Employment aligned with STW | • Use of JTPA and other employment and training funds for STW<br>• Sponsorship of Tourism Youth Apprenticeship by Department of Economic Development |

SOURCE: State site visits, spring/summer 1996.

Oregon provides the clearest example of STW goals embedded in state education reform. Career majors, skill certification, work-based and workplace learning, and partnerships with employers are central to the 1991 Education Act for the 21st Century and the companion Workforce Quality Act. Oregon is the first state to adopt a Certificate of Initial Mastery and a Certificate of Advanced Mastery tied directly to knowledge and skill requirements of the workplace, as well as criteria for further postsecondary education. The legislation encourages business and community partnerships, restructuring of curriculum, and workplace learning. Almost all site visit respondents at the state and local levels view STW objectives as at the core of the state's education reform agenda.

Important aspects of Kentucky's 1990 Education Reform Act (KERA) also focus on key elements of STW systems. For example, the accountability standards and performance-based assessments established by KERA include items that focus on students' exposure to occupational education and knowledge of careers. An interagency commission established by related legislation in 1992 is working to improve statewide linkages between secondary and postsecondary programs and to facilitate student transfers between postsecondary institutions. At the state level, site visit interviews suggest that there is a widespread belief that the priorities and direction of KERA are closely aligned with STW objectives.

STW and general education reform do not mesh so fully if they do not arise from consistent and coordinated views of educational change priorities. In Massachusetts, for example, general education reform and STW implementation appear to be on two separate tracks. Although employer concerns about the quality of the future workforce prompted the Massachusetts Education Reform Act (ERA), it focuses mostly on schools rather than on broad efforts to link school-based and workplace learning. ERA is expected to eliminate the general education track and implement new standards for vocational education. It will create a certificate of "competency determination" attesting to attainment of basic academic skills required for high school graduation and a certificate of "occupational proficiency" to be awarded to students who complete a comprehensive program of education and training in a particular trade or

professional skill area. The certificate of occupational proficiency provides an opportunity to develop a credential linked to a new system of career majors that focus on broad industries and general, transferable skills. However, the state's Department of Education currently views it as a vocational education credential, tied to specific occupations. Other tensions between education reform and STW goals have also surfaced; some local partnerships are concerned that ERA proficiency testing based on classroom instruction will impede efforts to promote work-based learning.

In the other in-depth study states, the interaction between STW and larger education reform is less clear. In all of the states, even where there is no prominent education reform legislation driving improvement efforts, there is widespread concern about improving academic performance and curriculum. Florida has allocated funds for aligning its STW activities with plans for implementing Goals 2000. Maryland has designated local school improvement teams, created under its general education reform initiative, as the primary means for achieving STW objectives. Nevertheless, in these other states, initial STW efforts appear to have concentrated more on linking to and expanding on major vocational education initiatives than making STW part of general education reform.

**2. State STW Priorities Usually Build on Programs that Originate in Vocational Education**

Congress anticipated that STW systems would be built in large part on a foundation of existing programs, some of which are authorized under the Carl D. Perkins Vocational and Applied Technology Education Act. The STWOA encourages using Tech-Prep, youth apprenticeship, and cooperative education programs as building blocks. These programs have been important focal points for early state efforts to develop STW systems, and key state roles in STW implementation often are assigned to vocational education leaders.

**Tech-Prep.** Although the STWOA does not define in any detail how STW systems should relate to Tech-Prep, it lists Tech-Prep as one of several program models that states can use as a foundation and specifically promotes STW system features already emphasized in the 1990 Perkins Act amendments that

defined and funded Tech-Prep programs. For example, the Tech-Prep provisions of the Perkins Act aimed to improve articulation between secondary vocational programs and postsecondary career programs. Tech-Prep has assumed diverse forms, but the idealized model originally proposed envisioned a "seamless" sequence of academic and vocational courses beginning in the 11th grade, continuing through two years of community college, and ending with an associate's degree. The STWOA also explicitly stresses efforts to make it easier for secondary students participating in STW activities to enter postsecondary education. Similarly, the STWOA encourages use of applied approaches to academic curriculum and instruction, as did the Tech-Prep legislation.

Most of the eight in-depth study states included in this evaluation have included expansion of Tech-Prep as one of their priorities for STW implementation. For example, as part of its overall STW implementation, Wisconsin is expanding Tech-Prep connections to four-year colleges and universities. The University of Wisconsin has entered into articulation agreements that allow students to transfer credits from the two-year Wisconsin Technical College System for pursuit of a four-year degree. The state also will soon allow 16- and 17-year-olds to enroll in technical college courses while they are still in high school.

Several states are using Tech-Prep consortia to manage STW implementation at least to some degree. In Florida, where school districts or community colleges are the entity most often chosen to administer substate STW grants, local STW coordinators often are also in positions of responsibility for Tech-Prep or have been assigned to the organizational unit overseeing Tech-Prep. In Ohio, STW partnerships (including one of the five local partnerships in the evaluation case studies) sometimes are defined as the preexisting Tech-Prep consortia. In Wisconsin, leaders of Tech-Prep consortia were chosen to head almost a third of the STW local partnerships. In Oregon, the state's regional administrative structure has been used to create both the Tech-Prep consortia and STW partnerships.

Using Tech-Prep as a major foundation for STW implementation creates both advantages and problems. On the positive side, many Tech-Prep consortia already have established strong working

relationships among schools and between school districts and postsecondary institutions (usually community colleges). Some had developed strong relationships with key employers even before the advent of STW funding. On the other hand, where Tech-Prep is a selective program that focuses on specific technical occupations, this focus may be counterproductive if the state envisions STW as extending beyond preparation for occupations that require less than a baccalaureate degree. In some states, Tech-Prep has consisted of programs preparing students for particular technical occupations and leading to a two-year degree or certificate. In such states, connecting STW initiatives to existing Tech-Prep programs may make it more difficult for local partnerships to envision their mandate as including development of broad career clusters or programs that appeal to students interested in four-year college degrees. One Maryland respondent predicted that local teams that have made the most progress on expanding Tech-Prep will have the most difficulty adopting the state's new system of career clusters and other aspects of the STW model.

**Youth Apprenticeship.** Youth apprenticeship models helped inspire the STWOA, and they remain a key element in some states' STW system plans. Three of the eight in-depth study states (Michigan, Ohio, and Wisconsin) have made expansion of youth apprenticeship a central goal of their STW initiative. In Michigan, there is a special emphasis on developing youth apprenticeships linked to registered apprenticeships that lead to certification.

The STWOA, however, envisions a more varied set of program opportunities for a more diverse population, so heavy reliance on youth apprenticeship as a model for STW systems raises some of the same issues as Tech-Prep. Youth apprenticeships usually are conceived as including intensive worksite training over several years, linked closely to classroom curricula. They imply substantial collaboration between educators and employers in developing curriculum, structuring work experience, and assessing student performance. Youth apprenticeship programs typically emphasize occupational skills and include vocational courses, because this is the area in which employers generally have felt they can contribute most to making students' preparation fit their hiring needs. However, youth apprenticeship programs may not

have strong appeal for most students interested in four-year college or postbaccalaureate education, because they typically have had a strong association with careers not commonly assumed to require a baccalaureate degree.

**Cooperative Education.** Expanding or strengthening cooperative education figures in the STW priorities of four of the eight in-depth study states: Maryland, Michigan, Ohio, and Wisconsin. Cooperative education is a longstanding form of vocational education that encourages students to apply what they have learned in the classroom in a work experience directly related to their vocational education program. The best cooperative education programs exhibit many of the same features as Tech-Prep and youth apprenticeship, although students in most cooperative education programs do not participate for more than one year. Thus, when states aim to expand the length of cooperative education or strengthen the integration of the classroom and work-based components, these efforts become hard to distinguish from similar actions to expand Tech-Prep or youth apprenticeship.

### 3. STW Linked to Economic and Workforce Development, but Employer Roles in STW Unclear

Federal legislation envisions STW systems as part of a larger state policy framework that also encompasses economic and workforce development. Business leaders and other employers are expected to play an important role in both. If federal workforce development block grant legislation passes, the link between leadership of workforce development initiatives and STW systems may be even closer. As some states take action to create Workforce Development Boards and include STW in their portfolio, this link is strengthened even without federal legislation. Important questions remain, however, about how this linking of STW with a broader policy-making process will help define and promote a productive employer contribution to STW systems.

States commonly have linked STW to economic and workforce development by embedding STW governance in a structure that has responsibility for a broader state policy agenda. In Kentucky, Michigan, Ohio, Oregon, and Wisconsin, the governing board for STW implementation also has responsibility for

economic and workforce development policy. For example, in Oregon, the Workforce Quality Council oversees STW implementation and implementation of the state's Workforce Quality Act, as well as operation of state agencies responsible for education, economic development, and employment training. The Michigan Jobs Commission, in addition to directing STW, has primary authority for guiding the state's economic development efforts (including regulatory assistance, financial services, and other business support activities). These governing bodies are made up largely of private-sector representatives in addition to representatives of state agencies.

This linking of STW oversight with responsibility for economic and workforce development seems to stimulate business involvement in activities complementary to STW system development. In Oregon, employer participation in the Workforce Quality Council has helped facilitate business assistance in defining Certificates of Advanced Mastery and the knowledge and skills they expect of students. To help advise the MJC, Michigan's governor created business roundtables for nine major industries considered crucial to the state's economic development. These groups helped fashion the legislation that created an employer tax credit to stimulate registered youth apprenticeship, developed a prototype career ladder for the plastics industry, and are creating a CD-ROM "virtual tour" of an auto plant to help familiarize students and their parents with the auto industry.

All eight states have engaged business in planning and implementing aspects of a STW system, but in ways that so far are modest and idiosyncratic at the state level. No clear framework has yet emerged for organizing business involvement in statewide STW system implementation. This situation reflects some confusion among both STW offices and employers about what role employers should and can play at the state level. At the local level, there are obvious, tangible, and often immediately satisfying roles employers can play in guiding programs and interacting with students. At the state level, the question is how to create a useful structure in which employers help address important statewide issues and perhaps create useful products for statewide use.

Massachusetts and Maryland have both taken preliminary steps in this direction, although how their plans will function is not yet clear. The Massachusetts plan to assemble statewide industry associations relevant to each of the 12 industry clusters defined for STW systems may turn out to be very useful for systematically mobilizing statewide employer participation, and possibly for creating industry-related curriculum materials. Maryland's creation of a statewide incentive fund that can award grants to industry associations or labor groups may serve similar purposes for those that participate, although there is no indication yet of clear intent to recruit a wide range of industry groups, as in Massachusetts. How these efforts to create a statewide structure for systematic employer involvement play out will be an important focus of later stages of the evaluation.

## III. HELPING STUDENTS LOOK FORWARD: APPROACHES TO CAREER DEVELOPMENT

The School-to-Work Opportunities Act (STWOA) identified career development as an essential part of a strategy for promoting successful transitions from school to higher education, training, and employment. The STWOA stresses the importance of career awareness, exploration, and preparation, beginning no later than seventh grade, to help students set their sights on a career and begin developing the skills it requires. Only a short time into STW implementation, partnerships have been using diverse approaches to expand or modify traditional counseling and guidance activities and create what can be a broad career development component of STW systems. In the process, they are finding new ways to make the most of scarce resources.

Career development activities, beginning as early as elementary school, ideally provide a foundation for students to formulate career goals and even choose a career major (see chapter IV). Career development includes individual career counseling by school counselors, group career exploration activities led by counselors and teachers, mentoring by employers, and self-guided career exploration in high school career centers. Initial findings about the development of this STW component follow:

***Early Findings on Career Development***

- ***Career development has so far been the most available and widely appealing element of STW.*** States and partnerships are building on efforts begun before the STWOA that have broad appeal for students, parents, and all categories of school staff.
- ***Career development is being strengthened by changing the delivery of guidance services.*** Counseling staff are collaborating more with teacher-advisors and employer-mentors and are embedding career-related activities in the academic curriculum.
- ***Most students are involved in career development activities.*** Almost 80 percent of seniors surveyed in the 1996 baseline cohort had completed interest inventories and attended employer presentations during high school, and 62 percent participated in worksite visits or job shadowing.
- ***Career development activities are usually disconnected, rather than a coherent progression of increasingly focused exploration.*** The logistical demands of arranging these activities have often prevented much systematic preparation and followup for individual students, or links to more focused career exploration.

Career development is a broadly defined process. The National Career Development Guidelines (NOICC, 1989) suggest that career development programs have three purposes, helping students to (1) become more aware of their own interests, skills, and place in society; (2) explore possible educational and career paths they might follow; and (3) make decisions about their future and prepare for the roles they will play. In a fully integrated STW system, career development activities would connect classrooms to the workplace by helping young children begin to think about the roles of various careers in our society, and giving middle and high school students progressively more intensive exposure to career alternatives to help them gradually focus their studies.

The STWOA gives states and local partnerships wide discretion in the kinds of career development programs and activities they may support with STW funds. Such programs generally address career development with:

- ***Activities to Promote Self-Knowledge and Self-Awareness.*** School-based activities to help students understand their place in the world of work and their career interests, such as assessments of aptitudes, interests, and personality traits, and self-directed career exploration using reference sources, books, magazines, and interactive databases
- ***Information on Careers and Education.*** Counseling and guidance from various sources about career options and how to make career and education choices, delivered in individual discussions with teachers, counselors, or job mentors, at career fairs, and in contacts with employers in classrooms, club meetings, and workplace visits or job shadowing
- ***Workplace Readiness Exercises.*** Classroom and workplace activities that help students develop general employability and specific work-readiness skills, such as practice working in teams, preparing job applications and resumes, and interviewing for a job

This chapter examines how career development programs and activities fit in the early stages of efforts to develop STW systems. Using data from the case study site visits and the first survey of 12th grade students, this chapter addresses the following questions: (1) In defining STW strategy, how much emphasis are states and local partnerships placing on career development? (2) In what specific ways is the guidance

function changing as schools and their partners focus more on career development? (3) To what extent do students participate in career development activities at this early stage of STW implementation?

## A. THE PLACE OF CAREER DEVELOPMENT IN STW STRATEGIES

Making career development activities a central element of STW systems implies rethinking how schools use guidance resources. Depending on how it is approached, career development can be an extension of the responsibilities of guidance counselors, a separate function involving different personnel, or a combination. How career development can be strengthened is a key issue because school guidance counselors are already typically very busy, with heavy responsibilities for administrative tasks, class scheduling, personal counseling, and postsecondary planning. As a result, they often have insufficient time, at the high school level, to even help students plan their high school programs and decide on postsecondary options (Hutchinson and Bottoroff, 1986; Peer, 1985; Rowe, 1989). What time they have for postsecondary planning often focuses on college selection and applications and choosing upper level high school courses to meet college entrance requirements. Under such circumstances, it has often been close to impossible for counseling staff to spend any substantial portion of their time helping students identify career options and formulate goals as part of the process of planning further education.

This context for efforts to strengthen career development reflects changes in schools and society that created pressures on school counseling staff well before passage of the STWOA. School budget cuts in the 1980s forced many districts to reduce the size of their counseling staffs (and even eliminate counselors in some schools), sometimes leaving guidance counselors assigned to hundreds of students. Social problems affecting students' lives--including child abuse, drug and alcohol problems, teen violence, pregnancy, and suicide--have required guidance staff to spend more time on personal counseling and crisis intervention, including consultation with parents, teachers, clinical counseling personnel, and law enforcement agencies. This has reduced the time that many school counselors can devote to helping individual students plan for their future. At the same time, there have been continuing declines in the

availability of decent careers for high school dropouts and for people who have only completed high school. These trends raise concern that all students need to take full advantage of education to acquire the skills they will need in a career. There has also been an increasing emphasis in the workplace on the ability to work with technology and analyze problems. Guidance professionals have thus been pressed to broaden the scope of their activities as well as the number of students they serve.

These changes have affected guidance practice and its aims. The National Career Development Guidelines initiative, sponsored by the NOICC, produced guidelines that have now been widely adopted in state career development models. The guidelines specify the target competencies that students should develop at each age level, and the organizational and personnel resources that career development programs should muster. In 1990, the Carl D. Perkins Vocational Education Act supported the concept of career development as a universally important form of guidance by requiring the inclusion of special populations. At the same time, the pressures of social problems and staff cuts have led guidance staffs to recognize the importance of group and self-directed activities as efficient ways to deliver some services. Schools have responded in a variety of ways, however. In many cases, counseling staff have shifted their mission and methods, emphasizing career development and incorporating it into their ongoing roles. In a few schools, guidance offices have been slower to embrace career development functions, and separate staff attached to schools' vocational divisions have taken the lead in career development.

The STWOA gives further impetus to changes that are already underway to varying degrees around the country. What we observe about the status, extent, and quality of career development elements in STW systems is affected not only by the STW legislation, but by other pressures and constraints in the schools and partnerships we have visited. The STW legislation and funding, however, can accelerate and intensify interest in refocusing the role of guidance staff, by promoting attention to the following:

- ***A Broader Target Population.*** The idea that all students should have access to career guidance and career development activities

- ***A Broader Career Focus.*** The view that guidance and career development activities should acknowledge the social value, dignity, and rewards of a wider range of careers, including many based on technology and skilled crafts that have been undervalued in many guidance offices

- ***A Variety of Delivery Modes.*** The expectation that, in pursuing career development objectives, counselors can draw on other school staff and employers and emphasize group activities more, such as specially designed classes, units on careers incorporated into academic or vocational classes, meetings with students interested in particular careers, and job shadowing or visits to workplaces.

Early observation of the in-depth study states and local partnerships suggests that career development (1) is a convenient and logical priority early in STW implementation, (2) has been among the most consistently emphasized elements of STW plans and implementation, and (3) is the element of STW most likely to affect a wide range of students.

### 1. Career Development Is a Logical Early STW Priority

Career development objectives and activities are a logical priority in the early stages of STW implementation. In some cases, this priority is evident in state and local plans. Elsewhere, it emerges in the patterns of what STW partnerships are actually doing. Whether explicit or implicit, emphasis on career development is common because this dimension:

- ***Can provide a foundation for students' decisions about school-based and work-based options.*** Career interest assessments, worksite visits, and job shadows are designed to help students explore career alternatives, and as a result contribute to their choices of courses, career majors, and extended workplace activities.

- ***Is central to the overall aims of STW systems.*** Career development activities address a goal that underlies all STW components: showing students the connection between success in education and in later life. Career development models provide the conceptual framework for all STW activities by specifying the outcomes students should achieve in the course of preparing for a career and at what ages.

- ***Builds on earlier state reforms.*** Career development is a logical emphasis for early STW implementation in states that have made career development a focus of earlier school reform. Prior to 1990, Florida had established its Blueprint for Career Preparation and Maryland began promoting its Career Development Model. In 1990, the Kentucky Education Reform

Act (KERA) was passed. In 1991 and 1993, legislation in Wisconsin established career development as a central part of statewide school reform.

- ***Enhances familiar roles and activities.*** Teachers, counselors, students, and parents are familiar with counselors and the guidance function. The traditional role of counselors in helping students go on to postsecondary education is widely supported. Having counseling staff emphasize preparation for a future career does not amount to a threatening new practice, and can instead be seen simply as a way of emphasizing tools to help students achieve their goals. (Of course, to the extent that new participants become involved, such as employers, teachers, and other school staff, some issues about new role expectations can emerge.)

- ***Can be advanced by schools on their own.*** Much of the STW endeavor ultimately depends on the recruitment and participation of employers, which in some areas is a major challenge. However, schools can take the lead in some aspects of a career development program with relatively limited employer input. Activities like career fairs, worksite visits, and employer presentations require collaboration, but other activities such as assessing students' interests, using career exploration software, and offering career awareness classes can move forward even if strong employer support has not yet been built.

**2. State Career Development Models Offer Clear Guidelines to Local Partnerships**

Comprehensive career development models are one of the clearest examples of state guidelines on how to implement part of a STW system. Six of the eight in-depth study states have defined such models and incorporated them in their STW implementation plans.[1] In fully elaborated form, as in Kentucky, these models call for specific career development activities in elementary school, middle school, and high school, and provide local schools with examples of such activities.

These plans, and local efforts to implement them, generally have three features in common:

- ***Individual Career Development Plans or Portfolios.*** Most frequently begun by students in the eighth grade and then updated, ideally, annually.

- ***Interest and Aptitude Testing.*** Generally conducted in the 9th or 10th grades as part of career development classes, but in some locations earlier.

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[1]Florida, Kentucky, Maryland, Ohio, Oregon, and Wisconsin have developed comprehensive models defining career development at all grade levels, and either mandated or promoted the use of these models in local schools. The other in-depth study states have defined and promoted particular elements of career development, such as individual career plans.

- ***Definition of Career Pathways.*** Clusters of occupations and the secondary (and sometimes postsecondary) courses students need to take to prepare for them

The implementation of career development models, however, is shaped by each state's broader framework of related policies and historical influences, as illustrated by particular features of career development implementation in Wisconsin and Oregon. In Wisconsin, career development for high school students is seen as part of a broader workforce development initiative that serves adults as well. The state has established eight community-based centers that offer career guidance services to students and adults. These are pilot centers launched in preparation of an expansion to as many as several dozen statewide. These centers offer services to help users through five career building steps: awareness, assessment, exploration, selection, and application (for college, training, or employment.) All centers are open at least one night per week and on Saturdays, and have links to the Internet and Wisconsin's on-line Career Information System. Users can search databases containing industry profiles, local job outlooks, and information on training and college opportunities.

**Kentucky Career Development Model Sets Out Age-Appropriate Activities**

Kentucky's strategy calls for age-appropriate career awareness activities at each education level and suggests specific numbers of hours for students' involvement in career development. For example, teachers and counselors are urged to have students in grades 6-8 participate in 30 hours of career awareness/exploration activities, including career assessments and planning, career days and fairs, developing portfolios of their written work about careers, and cooperative learning. Additional work-based career development activities may include worksite visits with employability exercises, interviews with employers and employees, guest speakers, and workplace mentor identification.

Oregon has long required all high school students to complete a half credit of career development. In many schools in the case study partnerships, students fulfill this requirement by taking a one-semester freshman class that includes taking aptitude tests and completing interest inventories; researching careers

using reference books and databases and writing reports about careers, and taking part in workplace visits or job shadows.

### 3. Career Development Is the STW Element Most Likely to Affect All Students

One criterion for assessing whether STW systems are becoming a reality is whether the experiences they seek to promote for students are becoming routinely available and a common part of students' education. The extent of student participation in the career development, school-based, and workplace activities defined in the STWOA is therefore an important focus of the overall STW evaluation.[2] An important aspect of the evaluation's eventual findings will deal with the growth of participation and the factors that affect it.

Career development activities already involve a wide range of students, and have the potential to affect all students. The most obvious reason is that the exploratory aspect of career development makes it relevant for all students. Unlike some extended workplace components or occupationally focused programs, career development activities are relatively immune to criticism from parents or teachers that they constitute "tracking" for students of different abilities. Some career development activities--such as job shadowing--may be difficult to organize for all students, but most activities, such as interest assessments, career exploration through library materials and computer software, and classroom presentations by counselors and employers, can be incorporated into a school's curriculum for all students. Other factors also come into play. Career development activities already affect a broadly defined set of students because they

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[2]Case study site visits can only provide a basis for general description of how broadly career development activities appear to involve students in the 39 partnerships visited, although student survey data from these sites also provided more specific information about involvement in individual career development activities. Another component of the evaluation, the local partnership survey, will provide more structured and detailed data on the extent to which STW partnership schools systematically provide particular aspects of career development programs.

- ***Offer Suitable Roles for Employers with Workplace Restrictions.*** Activities that serve career development purposes are an obvious way to involve employers, especially those who cannot provide intensive workplace activities for students because of legal, safety, or other restrictions. In career fairs, presentations at schools, worksite visits, and brief job shadows, interested employers can reach many students without confronting workplace constraints.
- ***Respond to Pressures for High Participation in Workplace Activity.*** Pressure to involve many students in workplace activities--particularly from state implementation goals--has heightened attention to career development activities. The less intensive forms of workplace activity can involve many students with limited time commitments from either worksite or school personnel. Brief worksite visits and job shadowing can place students in the workplace without the level of ongoing supervision and evaluation typically required in activities like internships or youth apprenticeship.

- ***Can Sometimes Be Conducted Efficiently in Large-Scale Events.*** The goal of simply getting students in touch with employers from various industries leads some partnerships and schools to organize large-scale events that can involve many employers and hundreds or even thousands of students from multiple schools and districts. The Hillsborough partnership's annual "Great American Teach-In" in Florida is an example.

**Large Events Can Serve Students' Needs and Employer Recruitment**

Schools in Florida's Hillsborough partnership participate in the "Great American Teach-In," an annual event where employers serve as substitute teachers for a full day in the classroom. Where possible, employers are matched with classes related to their own career area, and spend the day discussing their careers with students. The event is designed to increase employer awareness of what is happening in schools, help students learn about careers and the workplace, and provide networking opportunities for students. Several students in Hillsborough have obtained jobs through this event. Over 8,000 employers in the county participated during the 1995-96 school year.

- ***Can Be Important Program Enhancement for Students with Disabilities.*** Career development objectives are at the heart of some partnerships' efforts to strengthen services to students with disabilities, and these efforts thus help broaden the population affected by career development activities. In Oregon, for example, many partnerships are involved in the Youth Transition Program (YTP), a collaborative effort of the Oregon Vocational Rehabilitation Division, the University of Oregon, and the state Department of Education to prepare students with disabilities for competitive employment without ongoing support. YTP provides a comprehensive range of services, all with the goal of helping students identify career options and prepare for the transition to community life.

## B. HOW CAREER DEVELOPMENT GOALS AFFECT LOCAL PRACTICES

Conceptual models and guidelines are created at the state level, but local partnership members must turn them into concrete plans, staffing decisions, staff development activities, and logistics. A state model

that recommends teaching employability skills to all students must be translated into a plan that outlines the kinds of skills that will be taught, the grades at which they will be taught, and who will teach them. Similarly, a state may define career development competencies for elementary school students, but partnerships that have few elementary school counselors must develop career development approaches involving other personnel. Many partnerships have had to rethink how they will fit career development in their curriculum, who will be responsible for it, and which aspects of career awareness, exploration, and preparation will be emphasized.

The result of this dispersed process at the local level can be seen in several trends that are gradually reshaping how career development is promoted and how it relates to school operation. Although precisely how prevalent these practices are cannot be determined with a case study methodology, four kinds of changes have been noted: (1) changes in the roles of counselors within schools, (2) increasing involvement of others in career development roles, (3) an increase in the range and availability of career development activities, and (4) a frequent focus on teaching students how to find and keep a job. Observations on these changes are presented below, followed by comments on the degree of overall coherence found in career development practices that result from these specific changes.

### 1. The Role of Counselors is Changing

Evolving pressures on school counseling staffs are changing how they work. Schools are expected to respond to students' personal crises, but also to provide broad services related to career development and planning of postsecondary paths to careers for all students. At the same time, the size of counseling staffs is typically very restricted and in many districts shrinking due to budget constraints. These pressures have led to several shifts in what counselors do, often requiring counselors to adopt new strategies to do more with limited resources.

First, the growing emphasis on career development has required certain counseling roles to be carried out more systematically than in past years. In the past, career interest inventories in some schools were

administered sporadically or to limited groups of students. Now, in the interest of making STW activities part of a system, many partnership schools are administering them to all students, often repeating them in several grade levels. Counseling staffs are typically instrumental in scheduling, arranging, and monitoring this activity and in interpreting the results.

Second, to "multiply" the effect of their work, counselors who take on career development roles are also increasingly functioning as internal "consultants" to other school staff, rather than operating primarily through their own interaction with individual students. They are doing this in two ways: by advising teachers about how to include career development material in their courses, and by visiting academic and vocational classes to teach units on career-related issues.

Third, in some cases, counselors and teachers work together on career development curriculum materials. In the Rochester, New York, partnership--one of the direct federal grantees included in the evaluation--district policy requires that they do so. In Ohio, all middle and high school students must have a career planning team that is responsible for developing individual career action plans. In one Ohio partnership we visited, these teams typically consisted of the principal, several teachers, and a counselor.

Counselors are also increasingly acting as managers of new or expanded career centers. This appears to be one of the most popular methods of increasing students' access to career guidance. Career centers have existed for a long time, but they were often merely collections of college catalogues and a few occupational outlook handbooks. Now, many counselors are managing centers equipped with computers, databases, and telecommunications links to external resources through the internet. In many of the case study partnerships, we found schools that already have, or will soon have, facilities for students to search databases maintained by their state's department of employment that contain information on employment and career outlooks. These career centers are sometimes staffed by newly hired career specialists, or even volunteers, who can guide students in their own independent inquiries.

Changing the role of counselors in these ways is not always a simple matter, however. Some guidance counselors, particularly among those who have spent many years providing more traditional services focused on college admissions, are not eager to transform their work lives. In some partnerships, certain schools with dynamic lead counselors are making all of the changes described earlier, while other schools are doing little. Some partnerships are using a part of their STW resources to conduct professional development programs with counseling staff to promote these shifts in their roles.

**Partnership Helps Orient Counselors to Career Development**

The STW partnership in Macomb County, Michigan, has organized a series of introductory staff development activities for counselors from the partnership's 21 local school districts. The purpose is to begin broadening counselors' roles from doing paperwork and college counseling to also providing students with information on careers and career paths. A half-day workshop was held on multiple occasions to allow all schools to send their counselors. In the summer, counselors do research on "10 new careers" and job shadowing for a day or two.

### 2. Others Besides Counselors Now Play Important Career Development Roles

In many schools, strengthening career development while staffing for even traditional counseling remains tight requires finding new ways of using resources. In many schools in the case study partnerships, both traditional counseling and newer career development functions are increasingly being shared between guidance counselors and other personnel. Decisions about how to do this are typically made at the individual school level, and sometimes even by individual counselors. Four distinct approaches to distributing guidance and career development functions have been observed in the case study partnership schools.

- ***Contracting for Clinical Counseling.*** One strategy is to relieve school counselors of some of their individual counseling workload. For example, one school in Oregon and another in Ohio hired or contracted with clinical counselors to handle students' personal problems and crises, allowing school counselors to spend more time on career development and guidance and scheduling activities.

- ***Using Other Staff to Teach About Careers.*** Other schools, some of them also in Oregon, take an opposite approach. Counselors no longer teach career education classes, but instead advise career education specialists and other teachers who are responsible for career development classes. School counselors are then able to spend more time on individual counseling.

- ***Training Teachers as Advisors.*** Despite the frequent emphasis on group career development activities, they do not fully substitute for individual interactions between students and knowledgeable adults. Counselors in many schools do not have time for individual counseling so some states, districts, and schools are developing advising systems that rely on other staff. For example, the Kentucky Department of Education, in collaboration with the Kentucky Counselors' Association, has implemented a pilot "Advisor/Advisee Program" in about 100 high schools and two-thirds of the state's middle schools. Counselors train teachers and other staff to advise students on postsecondary plans and course selection. High schools in several Wisconsin partnerships have instituted a homeroom advisee system with similar goals.[3]

- ***Promoting Career Mentoring.*** Employers, and occasionally labor unions, also play a role in providing students with information and advice on careers and jobs. Most of this advising occurs informally, between students and workplace supervisors or mentors. However, in more structured programs, especially ones that include employers like hospitals or large manufacturing companies, cohorts of interns or youth apprentices participate in classes at the worksite that specifically focus on career exposure issues. Employers participate in career development in other ways, as well, sometimes working directly with students, sometimes with teachers.

**Employers and Labor as Partners in Career Development: Local Examples**

In New York, the Rochester Labor Council and the Rochester Teachers Association are working with the city school district under a STW mini-grant to produce career development curriculum materials, such as *Our Community of Workers Coloring Book* for elementary school students.

In one Kentucky partnership (LAMA #6), local employers hosted a two-week technology camp for 8th graders. Students visited local businesses to gather information to help them complete math, science, and technology assignments. Each business assigned one employee to develop the objectives for students and to coordinate the students' visits.

### 3. Opportunities for Students to Learn about Careers and Interests Are Expanding

Although most changes in counseling and in the growth of career development programs have roots outside the STW movement, many educators in the in-depth study states strongly believe that the STWOA

[3]For a detailed description of a similar practice in place at high schools in an Arkansas Tech-Prep consortium, see Hershey, Silverberg, and Owens (1997).



84

has made a difference. They credit the STW legislation and funding with strengthening efforts to expand students' access to career information and avenues for career exploration. To achieve these goals, many partnerships are continuing to use approaches that they believe were effective in the past. In some cases they include more students in these traditional activities, or present them in new ways. Five developments are particularly noteworthy: the use of technology, the emphasis placed on expanding job shadowing, the importance of worksite visits in rural areas, the refinement of traditional career fairs, and the systematic infusion of career awareness materials into academic classes.

**Increasing Use of Technology.** Partnerships are widely turning to technology to promote awareness and exploration, frequently with state support. Relying on self-directed career exploration that makes use of technology tools allows schools to make career information available to many students without substantially increasing counselor or teacher staff. Schools also value these tools because they give students a sense of control and responsibility, itself an important part of self-discovery and career exploration. For example:

- Oregon's state-supported Career Path Planner software was developed to assist Tech-Prep consortia, but it is now increasingly being used by the general student population, typically in school career centers. Students use the software to learn about certificates of advanced mastery, Tech-Prep programs, and the educational and training requirements of occupations they are interested in.

- An Ohio partnership plans to purchase portable technology labs for each of its counties. Students will explore career clusters through computer-based exercises that allow them to perform some of the skills related to that career cluster. Similar technology laboratories have been developed by many districts across the country, most often as the foundation for technology exploration courses in eighth or ninth grade.

- In one of the Massachusetts partnerships, schools are using a proprietary software package that allows students to assess their abilities and interests and research careers that fit them. One school uses it in all ninth grade "pathway introduction" classes. In another school teachers refer individual students to the programs, and in a third school all students will use the software program in an applied English course.

**Emphasis on Job Shadowing.** In all eight in-depth study states and across many partnerships, job shadowing is one of the most heavily promoted methods of exposing students to career options, in large part as a response to state goals and requirements. We often see partnerships and schools make concentrated efforts to involve large numbers of students in job shadows, and in some cases develop standard procedures across partnership schools to ensure quality and safety. Schools in the most successful partnerships have been able to send nearly every freshman or sophomore on a series of job shadows that are part of an integrated, ongoing career development experience. For example, at Central High School in Kentucky's Local Labor Market Area #13, all students participate in some job shadow experiences--either individually or as a member of a group--during their sophomore year.

**Job Shadows Structured with Preparation and Follow-Up Assignments**

At Homestead High School, in Ozaukee County, Wisconsin, 300 students participate in a job shadowing experience that requires them to contact the person they will be shadowing, research the company and job they will be observing, interview the employee, complete a written evaluation of the visit, and submit a written classroom assignment. The job shadowing experience was in its fifth year in school year 1995-96 and is very popular with students and teachers.

In some schools, job shadows are preceded by classroom assignments, like researching basic information about careers or practice interviews, and followed by additional classwork tying the workplace experience back to the initial classroom assignment. However, the more typical approach appears to focus on a single worksite experience with limited preparation or follow-up activity, and often such a short time at the worksite that it is more appropriate to describe the experience as a visit than job shadowing.

**Special Uses of Worksite Visits.** Worksite visits continue to be a staple of career development at all education levels. In some partnerships, teachers are making special efforts to structure visits so they can be linked to some classroom activity. For example, at Capitol Center in Washington County, Oregon, students in the Engineering Prep program visited a high technology manufacturing firm and observed laser etching. They then used knowledge from this lesson to etch silk screen designs on T-shirts.

In some isolated rural areas, worksite visits are the only way so far that partnership schools have to expose students to industries and occupations not represented in their communities. In one rural partnership in Oregon, for example, school trips take as many as a dozen or more students on overnight or several-day-long trips to visit health care facilities or high technology companies in the state's metropolitan areas.

**Variations on Traditional Career Fairs.** Some partnerships are reshaping the long-standing idea of the career fair into a more interactive experience with particular learning objectives. One Kentucky partnership brings together a group of employers to create a one-day "reality store" for all eighth graders in the partnership's nine middle schools. Before the event, students gather information about careers and a particular occupation of interest to them. They are then assigned a "mock family" of a specified size, with a typical monthly paycheck for their chosen occupation. They then play the role of consumers, paying for goods and services at the 14 booths at the mall, using only the resources available from their "paycheck." Local employers sponsor the booths, and help students make decisions about how to meet their families' needs.

Large fair-like events sometimes focus on technology careers. In Macomb County, Michigan, for example, the community college that coordinates partnership activities organized a technology fair in 1996 that included 200 displays by postsecondary technology programs and employers and drew over 2,000 students and parents.

Technology fairs are also an opportunity for secondary and postsecondary institutions and employers to collaborate in providing a career development opportunity. Platteville High School in Wisconsin joins together with Southwest Wisconsin Technical College and invites all sophomores to Technology Day. Students visit the college where they divide themselves among six career cluster areas. They then alternate between touring the college's career areas, where they see the facilities and equipment and ask questions, and visiting a number of participating businesses in the nearby city of Fennimore.

**Making Career Studies Part of Academic Requirements.** Educators in some STW partnerships have decided that required academic classes are an effective way to deliver career development content to all students. English classes are most commonly chosen for this purpose. For example, in the Baltimore, Maryland, partnership, the 9th, 10th, and 11th grade English curricula have all been revamped to include career-related activities, such as resume writing and interviewing skills, and the development of a career portfolio that can be used for job interviews. Similarly, at Random Lake High School in Wisconsin, nearly all ninth graders complete a three-week career unit in their English class that includes writing letters to postsecondary institutions and conducting interviews with individuals working in a field that interests them.

### 4. Teaching "Work Readiness" Is a Common Focus

Career development programs seek to develop students' understanding of themselves and possible careers, but they often focus just as much on the skills and habits students need to find a job and keep it. In almost every partnership, career development includes some form of activity to develop job search and interviewing skills, as well as the work habits and attitudes necessary to succeed in any workplace. These skills are obviously relevant for students' later lives, but they are also widely viewed as important preparation for the workplace activities that STW systems offer students as part of their education.

As described by both educators and employers in many STW partnerships we visited, work readiness implies two distinct sets of capabilities. First, youth must have the job search skills and familiarity with workplace behavioral expectations to find a job and meet the basic requirements of being employed. These skills include being able to read employment ads and identify appropriate opportunities, present oneself well in telephone contacts and in-person interviews, complete employment applications and prepare a resume, and meet an employer's expectations by being punctual, reliable, and attentive to objectives. Students must also be prepared, however, to exercise functional skills once they enter almost any kind of employment in today's economy, skills now widely referred to as the "SCANS skills" based on the

commission report that widely publicized their importance (US Department of Labor, 1991). These skills include the ability to work effectively in teams and with technology, use information and resources effectively, and understand complex interrelationships that affect the work process. Three broad observations can be made about how these two types of work readiness skills are being addressed so far in STW partnerships and their member schools.

**Practical Job Search Skills the Most Common Focus.** Most frequently, practical job search skills are a major focus of work readiness or career development classes. These may be distinct elective or required classes of just a few weeks, or as long as a semester, as they are in some Kentucky, Oregon, and Ohio partnerships. These skills are also often taught in English courses as in the Coeur d'Alene, Idaho, partnership or in some Maryland schools where teachers use job application letters and resume writing as part of regular writing assignments. These classes sometimes focus on basic behavioral expectations at workplaces, particularly when the classes are a precursor to workplace activity.

Workplace readiness classes that focus largely on these practical skills are a convenient response to widely voiced concerns about students' ability to enter the workforce. They are a common response, in part, because the skills they focus on lend themselves readily to curriculum preparation; exercises can be quickly developed using existing materials from newspapers and employers. The skills taught are also concrete and familiar to most adults. Teaching these skills seems particularly popular in schools with large proportions of at-risk students and low rates of students entering postsecondary education. For example, in one Ohio partnership that largely serves vocational students, every student must complete an employability class on job seeking and job keeping skills, resume writing, problem solving, team building skills, and careers.

**Attention to Broad Functional Skills is Fragmented.** Most educators from STW partnerships indicate that broader job performance skills, like teamwork and problem solving, are developed in various ways throughout their schools' curriculum. Indeed, there are clear examples of activities in which students

are given assignments or projects that can develop and test these skills. For example, virtually every school-based enterprise requires that students create a management structure where students must solve business problems through team efforts. Some teachers design in-class activities to teach teamwork and other general workplace skills, as in one English class we observed at an Ohio vocational school.

**Classroom Activities Teach Broad Workplace Skills**

At Eastland Career Center in Ohio, students in the Administrative Management Technology Communication Class are divided into groups, and each group is responsible for teaching a unit in their textbook. In addition to having students learn the academic material, the exercise is intended to provide them with teamwork and problem-solving experiences. The students spend part of their class time meeting with their group to prepare lesson plans. During that time, the teacher circulates among the groups providing suggestions and answering questions. For example, she might suggest that a group working on effective speaking may want to show a film clip and have a discussion, or present a skit. Her admonishments to students also are frequently phrased in ways that are work related, telling students that their behavior would not be acceptable in the workplace and why not.

Many teachers have espoused the importance of teamwork and instinctively break up their classes into small groups to work together on assignments--from interpreting a scene from Shakespeare to solving an auto repair problem. Project learning and school-based enterprises can mobilize important elements of the SCANS skills.

However, attention to this higher level of work readiness skills is fragmented; it is often difficult to identify concerted strategies to address these skills. The best examples of activities designed to strengthen these skills seem, not surprisingly, to spring from the energy and imagination of individual teachers or spontaneously formed teams. Efforts to develop a strategy for promoting such practices and expanding promising efforts are less evident.

### 5. Career Development Not Yet Systematic in Many Partnerships

Enhanced career development activities appear to be the most pervasive element of STW, affecting a wide range of students. Many partnerships have made significant strides by using both traditional and new career development approaches. Educators indicate that through a combination of career development

classes, self-directed career exploration, and job shadows or worksite visits, larger numbers of high school students appear to be exposed to much more career information than ever before.

Some partnerships or schools have established ambitious, highly structured career development programs that identify activities for students in every grade. For example, in Maryland's Susquehanna region, sixth- and seventh-grade students take interest assessment tests and eighth graders begin keeping a career planning folder and develop a four-year education plan. Ninth graders take a career decision-making survey. Tenth graders learn about Career Passports (guides to resume writing) in their English classes. Eleventh graders write career-related papers in their English classes. Twelfth graders meet individually with counselors, as they have throughout high school. Similar examples can be found in nearly every state we visited.

However, from the student's perspective, it is often difficult to tie career development activities together in a logical and productive progression. In many partnerships, individual activities like job shadows often have no connection to students' career interests. Staff face significant pressure to arrange hundreds of these worksite activities. Too few employers volunteer to host job shadows in many of the career areas that interest large numbers of students. One-time job shadows in the eighth or ninth grades frequently come too early for many students who have not yet formulated even tentative career interests. Before STW activities can help students build career development competencies, they need to be part of a coherent sequence connected to students' developing interests. Ideally, students could choose a job shadowing site based on some growing interest, even if it is vague and tentative, and use an initial job shadowing experience as a basis for further exploration of that career area or others. Refining job shadowing so it is integrated more fully into a career development progression remains a challenge in most partnerships.

Making career development a logical progression requires a coherent strategy that spans elementary, middle, and high school activities. However, many STW partnerships and individual districts lack such

a strategy. Even where a progressive career development strategy exists, it may focus primarily on the high school years. This is, in part, because elementary and middle school teachers and counselors sometimes operate quite independently from their secondary counterparts. In some STW partnerships, they feel excluded from STW planning activities, and especially from planning career development activities, where their contribution could be important.

## C. CURRENT PATTERNS OF STUDENT ACTIVITY

One of the major aims of the STW evaluation is to chart the growth of student participation in the career development and other experiences that STW systems promote. Although site visits to the in-depth study partnerships suggest that career development activities are already fairly widespread, they also suggest that new emphasis is being placed on developing them further and particularly on increasing students' opportunities for workplace experiences that contribute to career awareness. It is therefore important to measure student involvement in these activities systematically, and document changes as implementation continues.

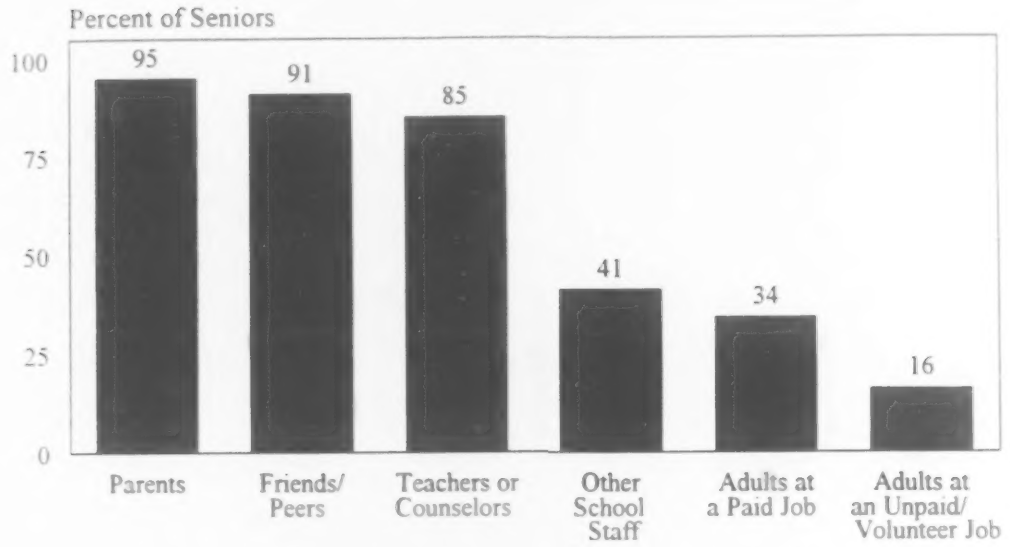
The first survey of 12th-grade students in the eight in-depth study states provides a set of baseline measures of career development activity from the students' perspective. The survey asked students about three aspects of their career-development-related experiences:

- ***The People with Whom They Discuss Career Plans.*** Whether they have talked about their career plans with teachers, counselors, other school staff, parents and other relatives, and their peers; the extent to which they have had discussions about careers with supervisors or mentors at paid or unpaid jobs they have held.
- ***School Activities.*** Participation in classes on career-related issues or specific work-readiness issues, use of interest inventory and career exploration software, and attendance at talks or presentations by employers at school.
- ***Arranged Worksite Activities.*** Worksite visits and job shadows arranged by their schools.

## 1. Students Get Career Information from Diverse Sources

Survey results for the 1996 cohort of 12th graders in the STW partnership schools clearly show that students turn primarily to their parents and peers to talk about careers and career plans, but that they also discuss career options with school personnel. Over 95 percent of all students said they had talked to their parents or guardians about careers at some time since ninth grade (Figure III.1). Not surprisingly, the

FIGURE III.1
PEOPLE STUDENTS TALK TO ABOUT CAREER PLANS




People Students Ever Talked to about Career Plans in Grades 9-12

SOURCE: 1996 survey of 12th graders conducted by Mathematica Policy Research, Inc.

likelihood of such discussions occurring escalates as students get older, from 58 percent in ninth grade to 93 percent in 12th grade. Students are similarly likely to discuss careers with their friends.

These rates are higher than the rates at which students talk to anyone at their schools about careers, although those rates are also high. About 85 percent had spoken at some time to either a teacher or counselor, and about 41 percent had spoken to other school staff such as an athletic coach or their principal.

Many students had held paid jobs or unpaid volunteer or internship positions, and some of them had chances to talk about career plans with their employers or other staff at these worksites. These findings confirm that most students have been fairly successful in developing several channels for talking about their career plans.

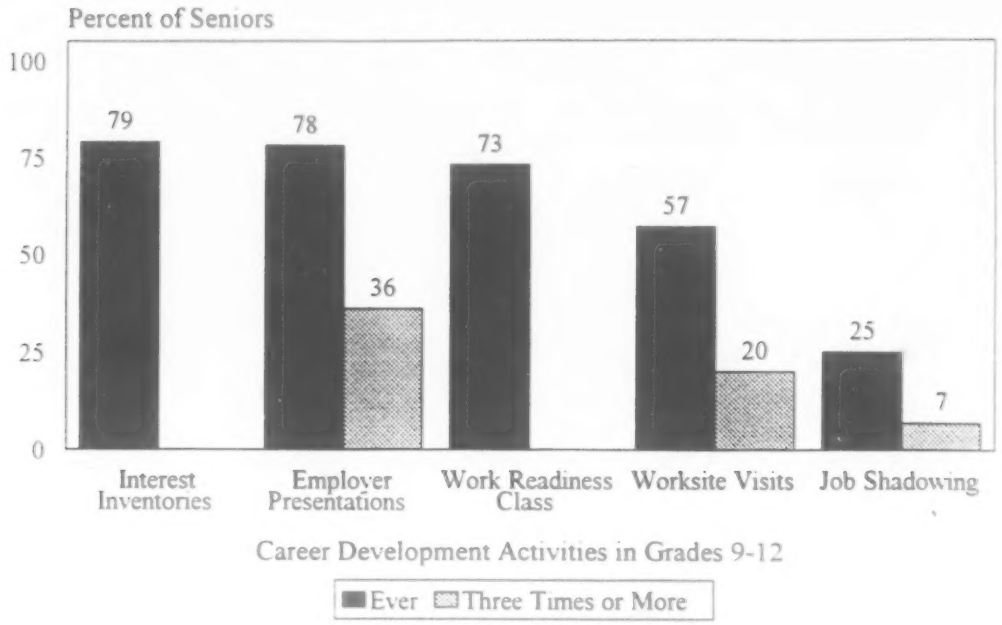
However, it is not clear how much school sources influence students' career interests or choices. In other studies, students have consistently reported that counselors and teachers have had very little influence on their postsecondary plans (Hossler and Stage, 1992; Hutchinson and Bottoroff, 1986; Rowe, 1989). Such findings suggest that it may be wise to plan career development activities in ways that involve parents. If the activities and information about careers that STW partnerships provide are really to open new horizons that students might not otherwise consider, the chances of success are probably greater if their parents are also considered an important audience, because their support or opposition is likely to be influential.

**2. Basic Participation in Career Development Activities is High, Particularly at School**

The student survey data confirm that most high school students already take part in at least some of the career development activities that take place at school (Figure III.2). About three-quarters of all high school seniors in the 1996 baseline cohort surveyed in the in-depth study states' STW partnerships had at some point completed a career interest inventory. Similar participation rates were found for attendance at presentations given by employers at their schools, and at work readiness classes or workshops.

Activities that involve going to workplaces are fairly widespread, but less common. Over half of all students said they had at some time during high school visited an employer workplace on a trip organized by their school. About a quarter of the class of 1996 reported at least one job shadowing experience in which they spent an hour or more with an employee at a workplace to learn specifically what that person's job was like. Although job shadowing is very much emphasized in early STW implementation efforts, in

FIGURE III.2
PARTICIPATION IN CAREER DEVELOPMENT ACTIVITIES




SOURCE: 1996 survey of 12th graders conducted by Mathematica Policy Research, Inc.

many partnerships these experiences are arranged primarily for students in the early high school years. The class of 1996 went through most of its high school years before any substantial STW implementation effort was under way in most schools. Later survey cohorts might therefore be expected to report higher rates of job shadowing participation.

Almost two-thirds of the student sample could be described as having a comprehensive involvement in career development activities of the kind most often available through schools. Students were considered to have taken part in a comprehensive career development program if they had ever done at least four of five key things: talked to a teacher, counselor or other school staff about career plans, completed an interest inventory, attended talks by an employer at their school, taken a workplace readiness

class, or gone to a worksite for a tour or job shadow organized by their school.[4] About 63 percent of all students met this criterion. Similar analyses of participation in career majors and intensive workplace activities are reported later in Chapters IV and V, and in Chapter VI we use rates for all three of these broads sets of activity to estimate what proportion of students participate in this range of STW components.

### 3. For Some Students, Workplace Exposure Extends Beyond One Occasion

A single foray into the world of work would be, for most students, little more than the start of an exploration process. They may, of course, have opportunities other than those provided by schools and STW partnerships to continue exploring a particular career or industry, or to sample a variety. For many students, however, opportunities they get through their schools may be their major avenue for learning about careers and workplaces and how they might fit in them. Many students, then, would probably benefit from the chance to use an initial worksite visit or job shadowing experience as a base for further exploration.

Most students in the baseline cohort of 1996 seniors had some limited exposure to workplaces in career development activities. Over half of 1996 seniors had gone on a workplace visit, and about 20 percent had done so more than twice (Figure III.2). A quarter of all seniors had had a job shadowing experience, and about seven percent on more than two occasions.

For the class of 1996, it seems fair to describe career development activities as broadly distributed among the student population, but not often of substantial depth. The student survey data suggest, as do the case study site visits, that extending the boundaries of career development experiences outside the school is feasible, but challenges remain before they can become more than an unusual event for most students. In many schools there are significant logistical difficulties to overcome in arranging even a single job shadow for all students at the stage when they are making decisions about which career major,

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[4]About 87 percent said they had ever talked to a teacher, counselor or other school staff (not shown in Figure III.2).

pathway, or curriculum to pursue. Schools will continue to be challenged to work with other members of their partnerships to identify career development opportunities for students that will broaden their thinking about career alternatives.

## IV. RESHAPING CURRICULUM: CHANGES IN SCHOOL-BASED LEARNING

What and how students learn in school is a key concern for STW proponents. The School-to-Work Opportunities Act of 1994 (STWOA) was largely a response to perceptions that schools often fail to equip students for careers and employment. Those concerns have often focused on secondary schools; critics argue that many students wander through high school, casually selecting courses that lack rigor, practical application, or connection to their future career options.

The STWOA promotes several approaches to organizing and delivering curricula that, in their most ambitious forms, would reshape the high school experience. Career-oriented programs of study, or "career majors," are expected to engage students in coherent course sequences that lead to postsecondary employment or further education, and ultimately towards a broadly defined career goal. Academic and vocational education are to be integrated, combining the best of both. Skill standards are to be developed and incorporated into academic and technical instruction. This chapter examines how STW partnerships interpret these ideas and what they have done so far to implement them. The major findings in this early stage of the evaluation are:

***Early Findings on School-Based Learning***

- ***Career-focused programs of study that integrate academic and vocational curriculum are so far uncommon, and creating them is usually a low priority.*** About 12 percent of 1996 seniors could be described as participating in such programs. More commonly, students' career interests are taken into account informally by counselors as they help students choose courses.

- ***Various forms of integrating academic and vocational instruction are being pursued, but more attention to curriculum is needed.*** Professional development on basic concepts is widespread but probably insufficient to transform teaching practices. Integrated lessons, as commonly developed, typically emphasize applied methods over making content more rigorous.

- ***Active efforts are being made to raise academic and vocational standards, but they are still somewhat peripheral to STW implementation in most states.*** Schools are focused more on performance accountability reforms. Current use of industry skill standards is limited and largely confined to fairly narrow occupations, not broad career clusters.

The curriculum change concepts described in the STWOA are set forth in broad terms and leave ample room for interpretation. The lack of prescriptive definition is an acknowledgment that states, partnerships, and schools will determine the curriculum approaches that best fit their needs and constraints. It is also an indication that, despite recent initiatives that have advanced similar concepts, there has been relatively little experience with and research on effective strategies for implementing career majors and curriculum integration on a wide scale.

This chapter focuses on three issues that pertain to curriculum change as a component of STW implementation:

- How are career majors being defined and what factors affect their implementation?
- In what ways are school curricula being modified to integrate academic and vocational learning?
- To what extent are academic and technical skill standards being developed and incorporated into curricula, and how do they relate to the goals of STW system implementation?

The discussion centers on curriculum changes in high schools, which have been the focal point for discussion and actions concerning this aspect of the STW agenda.

## A. CREATING CAREER-FOCUSED PROGRAMS OF STUDY

Students' ability and their parents' expectations have typically determined the high school courses most students take. Those who plan to attend competitive four-year colleges traditionally take a predetermined set of academic courses that leave little room for electives that relate to extracurricular or career interests. Students with occupational plans that seem not to require postsecondary education have traditionally been guided to vocational courses and fewer advanced academic classes. Students who do not fit either category have often taken a general education track involving fewer and less demanding academic classes, with little coherent purpose evident in their choice of electives.

Career majors as envisioned in the STWOA would change how students choose their courses. All students would, no later than 11th grade, identify a broad area of career interest and engage in a related "coherent sequence of courses or field of study that prepares a student for a first job." Programs of study would include high-level academic courses and, in some cases, vocational-technical courses. According to the STWOA's definition, career majors should link academic and occupational instruction, school-based and work-based learning, and secondary and postsecondary educational programs. They should also lead to a high school diploma, a skill certificate, and if appropriate, to postsecondary credentials. The career major is viewed by some proponents as a way to ensure that high school graduates either enter postsecondary education with a foundation of skills and knowledge on which to build more advanced career-related skills or enter the job market with some marketable skills and a sense of how and where to market them. Some proponents see broad career majors as a foundation for restructuring schools into smaller units, grouping students by common interest rather than ability, in a context that is relevant and useful to their future plans.

Career majors are a relatively new idea, with uncertain prospects for being realized. Implementing career majors requires: (1) devoting attention and resources to the effort, (2) defining what choosing a career major entails for students, and (3) adopting a phase-in strategy. Observations about each of these challenges and how they are being addressed emerged from the initial round of evaluation visits, and are presented in the following three sections. In the fourth section, we use the 1996 student survey data to estimate how common it is, at a very early point in STW implementation, for students to choose and follow a career focus in their studies.

### 1. Career Majors Appear a Lower Early Priority Than Other Elements of STW Systems

Career majors compete with other STW components for state and local implementation attention, and for the most part receive less emphasis. Explicit state goals and objectives generally reflect the lower priority placed on this component. At least four of the eight in-depth study states have laid out targets for

student involvement in work-based learning, and a similar number have mandated career plans or other aspects of career development. In contrast, only two states have stated goals for student involvement in career-focused programs of study. Wisconsin expects that one of three graduating seniors in the class of 2000 will have a career major linked to an associate degree, and all will have a career plan and at least some exposure to the workplace. Oregon's plan calls for all high school students to choose a career major, as well as receive career guidance, and for most to have been exposed to the workplace.

Some states are providing local partnerships with guidance on how to implement career majors. All eight in-depth study states have identified either growth industries central to their economic and workforce development efforts or a set of career clusters representing the full range of occupations. Most states' applications for STW implementation grants and their STW staff report that these industries or clusters are expected to provide a framework for developing career majors.

However, the content and structure of career majors and their connection to these identified industry clusters have, in most cases, not yet been determined at the state level. Just three of the eight states have gone beyond the general federal definition to either specify what a career major should be or to emphasize its role in STW system development. Oregon has developed standards for certificates of advanced mastery (CAMs) for each of the state's six career/industry clusters. Regional partnerships and their local school districts are developing the activities and courses that will constitute a program of study for each broad career cluster (also called "CAM strand" or "endorsement area"). These clusters will define a set of career majors from which all students in Oregon are expected to choose. A resource guide for Massachusetts' local partnership grant applicants gives the state's interpretation of "career majors" and "career pathways" which together are approximately equivalent to the concept promoted in the STWOA. Kentucky's "Guide to Selecting Career Clusters and Career Majors," which has been distributed to school districts since spring 1996, describes the relationship between Kentucky's 14 industry clusters and the career major concept.

Career majors are less prominent than other STW components in current implementation plans. They get less emphasis for several reasons:

- ***Less History.*** States and local districts have greater experience with career development and work-based activities than with career-focused programs of study. Career awareness experiences, interest assessments, cooperative education and work-study are familiar to state education departments and local districts, while career majors are new. It is difficult to move forward with all STW components at the same time, so most of the in-depth study states and their partnerships are focusing on those components that have an existing foundation.

- ***Beyond Central Education Reform Priorities.*** Most education reforms in the eight states were passed before the STWOA. The goals of these initiatives were sometimes congruent with, but often tangential to, the focus of STW. Only the Oregon reforms included the career major concept. In most states, career majors compete for attention not only with other STW components, but also with broad education reform priorities such as academic proficiency tests. The timing of initiatives in some states thus makes education reform and STW parallel efforts. Unless state education agencies have consciously tied education reform to STW school-based components, career majors seem a less urgent priority at the school level.

- ***Stigma of Career-Focused Programs of Study.*** Some states and local partnerships are consciously not developing career majors due to the stigma associated with vocational education and, by association, other initiatives that emphasize career preparation. Local staff in several partnerships reported that parents and teachers perceive career-focused programs of study as something that reduces students' options for postsecondary study. Some staff in partnerships in Oregon, Massachusetts, and Ohio view students in high school as too young to be making even tentative choices of career interest that affect their course choices.

**2. Career Majors Vary in the Degree to Which They Determine Students' Studies**

Left with considerable discretion, local partnerships, individual districts, and individual schools have developed diverse interpretations of career majors and their objectives. These interpretations vary with respect to the effect that choosing one has on the courses students take, and the extent to which postsecondary options are explicitly included.

We found three models for choosing courses that local educators believe reflect the spirit of the career major.[1] A student's selection of a career area has very different implications under these three models:

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[1]In many cases, the term "career major" is not used, but teachers, counselors, and others perceive that the model they use addresses the goals that underlie the career major concept.

- ***Expression of a Career Interest.*** The closest that some schools now come to implementing the career major concept is the practice of getting students to express a career interest, which may have little or no effect on course selection. This practice is common in many partnership schools. Students are asked about a career interest at the end of eighth grade or early in ninth grade, and counselors are then expected to help the student develop a four-year plan based on this tentative interest. Counselors sometimes suggest electives based on students' interests, but students are often unaware that there is a connection between their career interest and these suggestions. Plans often differ only slightly for students with diverse career interests.

- ***Written Course Sequences as an Available Guidance Resource.*** Some schools identify courses that are considered relevant academic or technical preparation for each of a set of broad career clusters. Course sequences differ primarily by the "content" or vocational course. They may also vary with regard to the level of skill or education required in the target career; for example, sequences for professional occupations may include more rigorous or higher-level academic courses. Counselors use these course sequences as a guide for suggesting which courses students should take based on their career interests. Enrolling in the courses is almost always optional, however.

- ***Defined Career-Focused Programs of Study.*** Predefined lists of courses specify what is required of students who choose each career area. Students choose a program of study, and are aware that the choice has implications for which courses they take. These programs of study usually cluster students by career area in at least some key classes, such as math and a vocational course, so teachers can introduce material related to the relevant career area. These defined, career-focused programs of study are available in some schools, but are far less prevalent than the other two models.

These career major forms also differ in whether they emphasize explicit links between secondary and postsecondary programs. So far, explicit linkages are uncommon. The first two models of "career major selection" rarely feature a formal postsecondary component. Little emphasis is placed on the connection between courses students take in high school and those they are likely to take in college, except to stress fulfillment of college admission requirements. Counselors may discuss postsecondary plans and preparation for college or advanced training, but such counseling usually has little career context.

Defined, career-focused programs of study, on the other hand, more frequently specify a particular postsecondary program or even course options. Many of these programs--and their postsecondary linkages--have their origins in Tech-Prep articulation agreements. Written course sequences often show students the postsecondary programs or majors that they would be prepared to enter, and the more

specialized occupations they can prepare for in the postsecondary portion of the program of study. These sequences may even list specific courses that students should expect to take at the postsecondary level, and the college courses for which they can receive articulated credit by taking particular courses in high school. These carefully specified career majors typically include only one- or two-year postsecondary programs. Connections between high school and four-year college programs are rare.

Site visit discussions suggest there are several barriers to implementing defined, career-focused programs of study. In rural partnerships with small schools, lack of course diversity makes it difficult to construct career majors that are distinct enough to provide career-specific "content." Both small and large schools find it difficult, because of scheduling problems, to cluster students in academic classes by career major, which limits opportunities to focus on relevant career content. Many educators, parents, and students find choosing a career focus as a basis for organizing their high school studies to be premature if the choice is preceded by only cursory career exposure, and it is relatively rare to find more than that available to students. Counselors and parents often balk at programs of study that appear to funnel students towards a specific and focused postsecondary program. Moreover, much uncertainty remains about how to incorporate four-year degree programs into the definition of career majors.

### 3. Career Majors That Define Programs of Study Build on Existing Programs

The challenges of creating career-focused programs of study, and resistance to the idea, have limited their use to date. Most partnerships, if they are trying to develop such career majors, are doing so incrementally. As a first step, they build on school programs that already have a career focus, organized course sequences, ties to employers, and some existing degree of integration between academic and vocational technical curricula. They are generally selective programs (only some students apply and are admitted) that often cluster students in key academic classes as well as a vocational class.

Many of these early career major efforts are enhancements to ongoing Tech-Prep, youth apprenticeship, or career academy programs. In Michigan, for example, case study partnerships have

gradually been defining programs of study for selected career areas using high school career academies as the basis. Wisconsin and Ohio partnerships are building on well-defined youth apprenticeship and Tech-Prep programs of study. Some Florida and Maryland partnerships are also using Tech-Prep programs as a foundation for career majors.

This initial strategy makes good use of experience, but it also has some limitations that may affect chances for wider implementation. First, many Tech-Prep and youth apprenticeship programs are organized around particular industries and occupations, such as metalworking or culinary arts, rather than broad career areas like industrial technology or human services. To be sure, some such programs may expose students to a broader set of skills than is evident in their titles: "automotive technology" may include some welding, and "carpentry" may encompass some aspects of other construction trades. Nevertheless, they attract a narrower segment of the student population than might programs of study that clearly encompass a broader range of occupations. Second, because Tech-Prep and youth apprenticeship programs are generally targeted to students in vocational courses, building career majors exclusively around these programs may convey the impression that career majors, and STW more broadly, are only for "the vocational students." Finally, using existing programs as career majors can lead to inconsistency in the definition of what a career major actually is. A career major formed around one Tech-Prep program might include, for 11th-graders, a vocational course and two applied academic courses, while a youth apprenticeship in the same district might include only a vocational course and a math course. Career academies may cluster students in up to four or five courses as part of the program of study. There is no inherent need for every career major to have the same degree of specificity, but a set of programs that are to be considered a system should be defined with some common standards.

Although creating career majors from existing, selective programs is the most common approach, there are exceptions. Some partnerships are attempting to build, from the ground up, a system of career majors that will restructure schools. In Oregon, where education reform calls for career-focused programs

of study for all students, schools are beginning to identify course sequences that are relevant to the six state career clusters (CAM strands). Some schools in three of the four case study partnerships had already, by spring 1996, begun enrolling students in at least one of the CAM programs of study. Two have begun to develop a schoolwide approach to CAM implementation, with academic and vocational faculty in each of the six "schools" meeting to plan curricula in their CAM area. In spring 1996, one Massachusetts partnership anticipated that by the upcoming fall semester all ninth grade students in the partnership's largest school districts would choose from four or five broad career clusters, to determine which career exposure courses they take as freshmen and sophomores. Choice of career cluster is also expected to affect course selections, particularly vocational courses, in later grades.

**Two Oregon High Schools Start Career Majors Schoolwide**

Two schools in one partnership have begun creating "schools-within-schools," planning ultimately to offer students six programs of study that correspond to the state's CAM strands. Faculty have been assigned to one--or in a few cases, more than one--of the six career areas. In one school, each strand is assigned a "dean" with administrative authority for faculty and students. At that school, academic and vocational faculty in each of the six "minischools" were, by spring 1996, meeting to plan curricula in their CAM area and some had developed new cross-disciplinary curricula (for example, a technical writing course). Middle school and high school counselors were meeting to improve students' preparation for choosing a CAM area. Eighth grade students in feeder middle schools were already being asked to select a CAM strand, but the impact of this choice on course selection is still limited. However, both schools plan eventually to cluster students by CAM strand.

**4. In Early Implementation, Few Students Are in Defined Career-Focused Programs of Study**

In spring 1996, STW implementation was just beginning in many communities, and in a few cases was still only a plan. With the school-based learning elements of the STWOA, and particularly career majors, a relatively low priority, evidence of widespread participation in the more specific forms of career majors was not expected. Case study site visits have confirmed that career majors have not yet been widely implemented as defined programs of study. Where they have been, local staff reported that they involve small numbers of students.

The 1996 survey of high school seniors in the in-depth study partnerships supports this finding from another perspective. Of course, asking students directly whether they had chosen a "career major" was not feasible, because the term is not yet in common use. However, the survey provides some other ways of estimating involvement in career-focused programs of study.

**Many Students Choose a Career Area to Plan For.** An important step in career development and a prerequisite for choosing a career major is simply identifying a career area of interest. Whether defined programs of study are available or not, students who can formulate even a tentative career direction may be better equipped to choose courses that prepare them for postsecondary education and eventual employment.

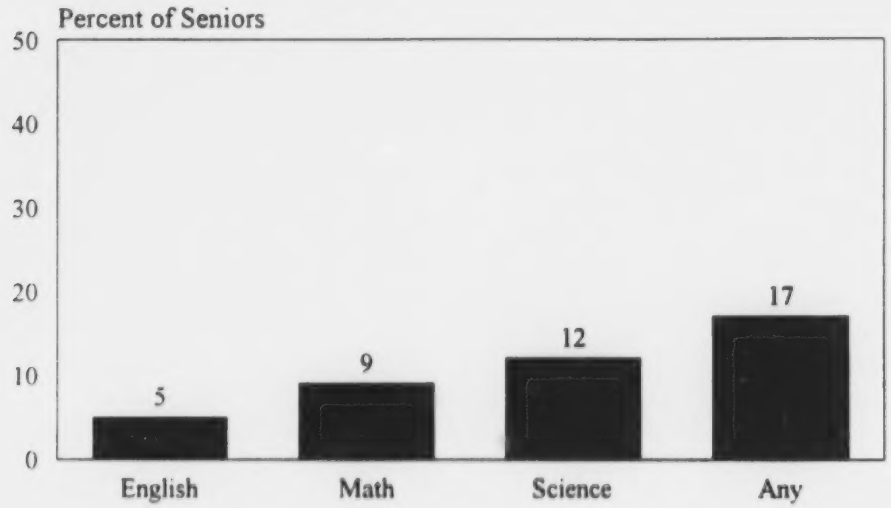
It is widespread practice for schools to ask students about their career interests. About 43 percent of students in the evaluation survey reported that they had, when asked by school staff, identified a career area to plan for, potentially as a focus for their high school studies. In some cases, their responses may have led to involvement in a defined career major, but in many instances their interests were probably expressed casually in discussions with a counselor. In fact, most of the career identification reported by seniors appears unlikely to have been connected to choice of or entry into defined programs of study. Nearly half of these career choices were made by students *during* their senior year--too late to have an impact on high school course selection. About 42 percent of the seniors who had selected a career interest had already stated a different career choice to school staff at least twice during their earlier high school career.

**Involvement in Career-Focused Programs of Study is Less Common.** Our field observations point up one feature that usually distinguishes career majors that are defined programs of study: the grouping of students in some key classes by career focus. For example, students in a health career major might be grouped together for their science classes so that biology lessons could be infused with exercises, experiments, or discussions linked to a worksite component. This feature is likely to be found whether career majors are implemented schoolwide, as is planned for most Oregon schools, or more selectively as

in the Boston partnership. Thus, the proportion of students clustered in academic classes with others who have chosen the same career interest can provide some indication of participation in defined programs of study.

Participation in this aspect of career majors was relatively limited in 1996. Of the seniors who had chosen a career focus prior to 12th grade, only about 40 percent (17 percent of all seniors) had since 9th grade ever taken an English, math, or science course designed specifically for students with the same career major or focus (Figure IV.1).[2] Clustering was most common in 11th grade, and more common in

FIGURE IV.1
STUDENT CLUSTERING BY CAREER FOCUS IN ACADEMIC COURSES




SOURCE: 1996 survey of 12th graders conducted by Mathematica Policy Research, Inc.

[2]Small schools with only a few sections of English, math, and science and a narrow range of electives may never be able to create classes for students interested in particular career areas. Such schools may seek instead to have teachers infuse their classes with assignments that are relevant to students' diverse career interests. This approach, based on our field observation, seems likely to result in a more superficial connection between students' career interests and their academic classes than when a teacher can focus on materials and assignments related to a particular career area. However, this approach may be fairly

(continued...)

science and math courses, which are often electives at the upper grade levels. Students have more choices of courses in these subject areas, as opposed to English; science and some math courses also more naturally have an occupational context. For example, physics courses might be filled with future engineers and advanced placement biology probably includes many students with interest in medical or other life science careers.

## B. INTEGRATING ACADEMIC AND OCCUPATIONAL LEARNING

Although it offers no clear definition, the STWOA urges local partnerships to "integrate" academic and vocational instruction. This directive springs from the view in some education circles that traditional teaching through lectures and skill exercises that are not connected to meaningful applications fails to motivate many students, and leaves many lacking the higher-order reasoning, computation, and communication skills employers say they should have. By bringing more relevant applications into academic learning, and more academic rigor to vocational instruction, educators hope to engage students' interest and intellect, and help them to reach higher levels of achievement.

Blending academic and vocational instruction faces obstacles that were widely acknowledged by school personnel during site visits in the eight in-depth study states and that have been described in earlier field research. Academic programs and teachers are typically isolated from vocational curriculum and instructors. Academic teachers are often unaware of how the skills they teach are actually used in the workplace. Vocational courses, on the other hand, have often been viewed as a place to "dump" students who appear unmotivated or perform poorly in academic programs. This practice has consequently left many vocational instructors with students who have the greatest academic deficits to overcome. In some states, educational requirements for vocational instructors have been less exacting than those for academic

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[2](...continued)
common. About 24 percent of all high school seniors said they had chosen a career interest and had at least three times been given an assignment in a math, English, or science class that related to it. About half of these students said they were clustered in that class with others who had the same career interests.

teachers, so that some vocational instructors may be poorly equipped for teaching academic material. Rarely do vocational and academic teachers have common planning time to coordinate instruction or develop integrated curricula.

Efforts to bridge these gaps began before the STWOA, and they continue. The 1990 amendments to the Carl D. Perkins Vocational Act gave an impulse to integration initiatives, particularly under the Title IIIE provisions concerning Tech-Prep. The result has been concentrated attention to curriculum innovation and enthusiasm for the objectives of integration. These earlier efforts have, in many cases, been continued or expanded in STW partnership schools. During the first round of STW partnership visits to the eight in-depth study states, and in analysis of the student survey data, we examined the extent of integration efforts so far, and what consequences they have from students' perspective. We focused on four questions about these efforts: (1) How is integration defined or interpreted? (2) How do earlier integration efforts affect what STW partnership schools are doing now? (3) How is professional development, a common emphasis in integration efforts, being used? (4) To what extent do students appear to experience something that could be called "integrated instruction"?[3]

### 1. "Integration" Typically Emphasizes Method over Content

Integration efforts proceed under several models. Our observations suggest that partnership schools take three broad approaches to integration: (1) incorporating some of the strengths of vocational teaching and career content into academic classes in an effort to make them more relevant and interesting, and to involve students in problem solving; (2) introducing more use of math and communication skills and

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[3]Our findings here are based in part on the student survey but also on limited observation of classroom instruction and discussions with school staff during site visits, as well as field observation in other studies such as the national Tech-Prep evaluation. The findings are not based on a statistically valid sample of classrooms but represent our best interpretation of the nature and direction of common approaches to curriculum integration.

scientific principles into vocational courses; and (3) linking academic and vocational instruction through cross-course tasks and projects.

The first of these approaches--bringing some of the instructional practices and content of vocational instruction into academic classes--appears to be the most commonly emphasized. These efforts take three forms:

- ***"Applied" Approaches to Academic Subjects.*** Either by purchasing commercially available curriculum packages or encouraging teachers to develop their own materials, many STW partnerships and Tech-Prep consortia are encouraging high school teachers to make math more tangible, to encourage students to write for a real-life kind of audience, and to increase the hands-on experimentation and observation that students do in their science classes.

- ***Bringing the World of Work into Academic Classes.*** Individual partnerships and schools consider instruction in academic classes like English on job seeking skills such as interviewing, completing job applications, and preparing resumes as a form of curriculum integration.

- ***Promoting Problem-Solving Projects.*** Integration in some schools means devising assignments that engage students in applying skills that they are learning in school (or at the workplace) to problems facing employers or their communities. Sometimes these projects are the product of efforts by an interdisciplinary team of academic teachers or academic and vocational teachers. Often they have a specific career or industry context, as in a project at a Wisconsin high school organized around designing and constructing a prototype container for the packaging industry.

**Product Design Project Requires Math, Writing, and Technical Skills**

About 150 technical education students at a Wisconsin high school participate each year in a project that over two semesters integrates geometry with technical drafting, computer-assisted design (CAD), pre-engineering, and machine technology. At a local manufacturing plant, students follow a particular part through each stage of production, talking with employees in each area about the academic skills and education required to perform their tasks. At school, students work in teams to design and construct a container for a fictional product, first by developing a prototype in the CAD lab. They also prepare a report describing the team's strategy and the problems they encountered.

Which integration model is emphasized often reflects a choice between working on methodology or content. In most cases we have observed, efforts to make academic classes more applied, or to devise interdisciplinary projects, focus on changing teaching methods--for example, using cooperative learning

instead of lecture--rather than on teaching more advanced skills or concepts. In contrast, where an effort is made to upgrade vocational courses to include more emphasis on theory and academics, that effort can expand the content scope of those classes, by widening the range of skills students are expected to acquire or strengthen in that class.

The diversity of integration approaches is an indication of local creativity, but it also gives rise to occasional uncertainty about what integration really means. A wide variety of locally devised curricula, projects, and working relationships described as dedicated to curriculum integration are testimony to the energy and commitment of many teachers. On the other hand, we occasionally encountered staff who are concerned that the plethora of strategies for integration and the popular "buzzwords" to describe them create an impression that curriculum integration is another educational fad, and that one approach is just as good as another.

Getting past the labels and choosing an integration approach carefully is important, because enthusiasm for change in methodology often obscures whether students are really being challenged to master higher order skills. Our observations suggest that popular integration approaches like projects and cooperative learning create classroom activities that students find appealing. However, they also require a lot of "overhead" during classroom time--setting up for projects, assembling student teams, transportation to community sites, and cleanup. It is often difficult, moreover, to discern how the new classroom activities develop or demand new or higher level skills. Given the instructional time that can be lost to this overhead, curriculum planners need to be sure that these new units are more than just fun--in order to maximize the potential of integration. To some extent, of course, mastering any new method of teaching takes time and practice, and early integration efforts that seem focused at first on method may over time also yield more challenging experiences for students.

## 2. Early Experience with Applied Academics Is Shaping Current Approaches

Making academic classes more applied is the predominant form of curricular integration described by partnership schools. Applied academic approaches have been used widely, in part because they were a major emphasis of Tech-Prep consortia, but also because many educators believe applied curricula can be useful for a wide range of students, not just those in vocational programs. In the early years of Tech-Prep, many schools and consortia invested heavily in commercial applied academic curricula. They purchased applied curriculum packages for mathematics, English/communications, and science classes; outfitted laboratories and purchased materials; trained teachers on how to use the curriculum; and labeled increasing numbers of academic classes "applied." For example, Florida reports that the number of class sections of applied academic courses increased from 20 in 1989 to 2,400 in the 1993-1994 school year. By the 1995-1996 school year, 350 of Michigan's 530 school districts offered at least one applied academics course, according to state education staff.

In places where most or all STW partnership schools have been involved in Tech-Prep, most teachers in the relevant subject areas have received training on integration and usually on applied academics. Many have had some involvement with putting applied instruction principles and materials to use. For example, partnerships in Kentucky, Massachusetts, and Wisconsin reported that teachers in communities with ongoing Tech-Prep programs have already been through some form of training on integration. Training in some communities has involved not only faculty with direct responsibility for teaching specific courses designated as "applied," but also other teachers who are interested in infusing applied approaches into their classroom instruction. As a result, in some STW partnerships, a wide range of school faculty have gained some experience with approaches to making academic teaching more applied, and learned some useful lessons in the process.

**"Applied" Courses Can Become Stigmatized.** Courses formally titled as "applied" have most commonly been introduced for targeted groups of students. Sometimes applied curricula are introduced

as an element of programs of study targeted to vocational students. In other cases applied courses have been introduced for students identified because they "have difficulty" with traditional classes. For example, the most widely used applied math curriculum package has been introduced in some schools for students in 11th grade, although the pre-algebra and elementary algebra skills covered in its early units are traditionally taught to college-bound students in earlier grades.

Although many districts have promoted applied courses as a way to ensure that students progress to advanced skills, the result of this targeting has often been that students, parents, counselors, and even some teachers come to view the classes with an applied approach as remedial. This concern, as well as broadening appreciation of the potential value of more hands-on instruction, has led many districts to reduce their emphasis on running specific applied classes, and to move instead toward greater emphasis on broadly infusing applied approaches into academic classes in general.

Experience in some schools has shown that making instruction more applied can make academic classes more stimulating and challenging for a wide range of students, if courses are used at the appropriate grade level. Rare examples can be found in the STW partnerships of how applied approaches can be integrated into curricula for students performing at high levels, as in the technical writing component of a physics course in one Michigan partnership high school.

**Applied Writing Class Appeals to Physics Students**

One high school created a class called "physics lab/technical writing," which is required for students taking regular physics, many of whom are headed for four-year colleges and aspire to careers in engineering, math, and science. The full-year class, taught jointly by an English teacher and the physics teacher, engages students in research and technical report writing. The English teacher critiques their physics lab reports, and students praised the resulting pressure to write clearly for a lay audience.

**Postsecondary Institutions are Slow to Accept High School Applied Curricula.** A common concern voiced in our site visits by secondary school proponents of applied academic curricula is that college admissions offices, particularly at four-year institutions, often do not consider "applied" courses

as fulfilling college prerequisites. A college that requires applicants to have three years of high school science, for example, might not count a year of "applied biology" or "applied physics." Faculty who believe strongly in the value of more applied approaches to instruction have responded in various ways. Some faculty have attempted to inform postsecondary institutions that their "applied" classes are equivalent to traditional science courses. Others have simply relabeled the classes with more traditional titles. In some districts, the postsecondary stance has contributed to high school decisions to infuse applied approaches into a wide range of classes rather than focusing curriculum development efforts on particular classes then identified as "applied."

**Systematic Use of Applied Approaches Has Not Yet Occurred.** Recognition of the drawbacks of designating certain courses as applied and the increasing preference for broad infusion of applied instructional approaches leave school districts facing a major task. Promoting broad understanding of applied instructional approaches and developing the classroom materials and instructional units that are necessary to implement this new pedagogy is a big effort. To date, partnerships have not generated the level of professional development, teacher buy-in, or curriculum development needed to make system-wide shifts in teaching practices.

### 3. Professional Development on Curriculum Integration is Widespread But Thin

Educators generally recognize that for most teachers integrating different approaches to teaching is a difficult break with the past. Most districts and schools that attempt curriculum integration therefore stress professional development opportunities for teachers. Many teachers have taken part in training on applied academics and workshops and information dissemination on alternative integration strategies are increasingly common as part of the STW effort. Many states and partnerships have begun devoting substantial resources to this element. The Kentucky Department of Education and the University of Kentucky, for example, sponsor summer institutes to help teachers form interdisciplinary academic and vocational teams to develop and deliver applied curricula. States typically include curriculum integration

as a topic at their partnership conferences and in technical assistance for individual partnerships and schools. Many state and sub-state Tech-Prep conferences have, for several years, offered workshops on integration practices. Several states and many partnerships provide funds that encourage teachers to spend time at an employer workplace during the summer or school year to gather information that can be used to create linkages between classroom instruction and the world of work.

In most cases, however, these professional development activities appear to remain at a relatively small scale and to involve teachers for only a very limited time. Several obstacles remain in the way of systemwide professional development efforts that would have the potential to transform teaching practices on a broad scale:

- ***Funding Constraints.*** Teacher training competes with other STW elements for grant funds and other resources. Seminars can be costly; money has to be found to pay consultants or facilitators, teachers (if training is conducted outside of school hours), classroom substitutes (if training is conducted during the school day), and training materials.

- ***Limited Expertise.*** Some state agencies and many local partnership staff say it is hard to find consultants who are effective in teaching about curriculum integration. Information on who does a good job is spread largely through word-of-mouth. Consultants all have their particular preferred integration strategy, as do many partnerships, which narrows the options available.

- ***Teacher Availability.*** If professional development activities take teachers out of their classrooms they compete with other urgent and immediate concerns and may not be looked on favorably by parents.

Given these constraints, many state agencies, partnerships, and schools choose to maximize the number of teachers who get at least some orientation on curriculum integration, in an effort to achieve some measure of "system-wideness." However, most professional development occurs over a single day or, at most, a few days. As a consequence, many teachers are getting little more than introductory information on how to develop and implement integration strategies. In exercises that are part of curriculum integration workshops, they may be required to develop a single integrated lesson, but are usually left on their own to improvise further for their classes. There is often little, if any, followup

conducted by partnership or district staff to determine if integration concepts or lessons are actually being implemented in the classroom. At this point, it is unclear whether the limited levels of professional development typically provided can translate into broad curriculum change.

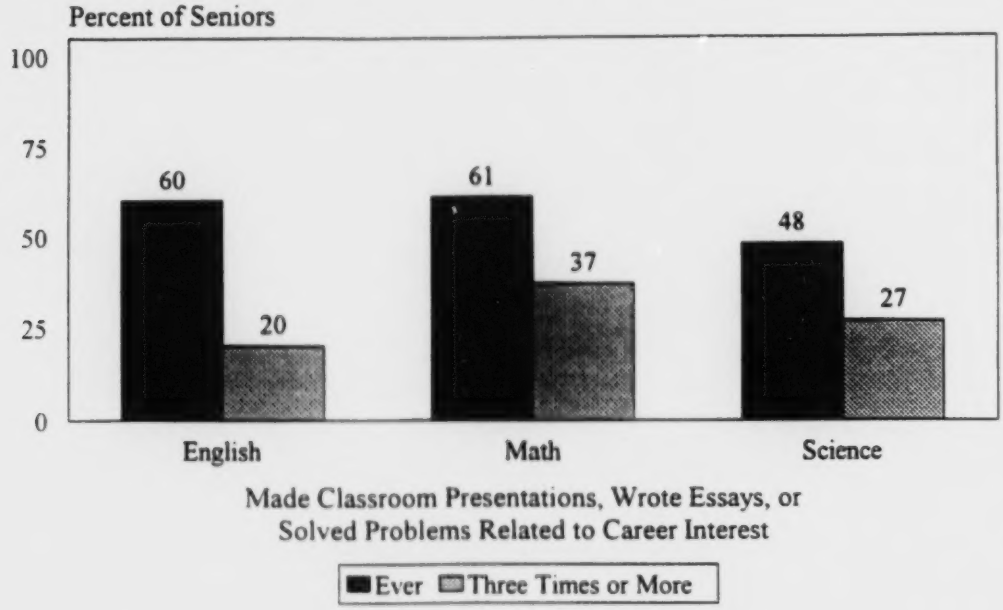
**4. Student Responses Confirm Prevalence of Modest Forms of Curriculum Integration**

Curriculum integration is not a quality of instruction with a presence or absence that can be simply noted and reported. The diversity in integration strategies makes it difficult to identify when academic and occupational learning are linked in course curricula, or to measure improvement in such linkages. To provide some basis for judging the progress of curriculum integration in STW partnerships, it is therefore useful to approach the issue from two perspectives. The local partnership survey will measure what percentage of partnership schools are pursuing various strategies for curriculum integration, according to their own reports. Those measures will be reported, based on the first partnership survey, in the next evaluation report.

An alternative approach is to gauge how often students perceive the linkages that curriculum integration proponents seek to create. The 1996 survey of seniors in the eight in-depth study states' partnerships provides early measures of three such linkages: (1) the introduction of career-related materials and context into academic classes, (2) the emphasis in vocational classes on academic skills, and (3) involvement in "career major" programs that provide common forms of curriculum integration.

**Using Career Context in Academic Courses is Common.** Applied academic, contextual and project-based learning integration strategies rely heavily on the use of problems and tasks from various occupations and industries. Teachers may use examples that focus on a particular career or industry, incorporate examples from a wide range of careers, or allow students to choose their own career or industry interest as a basis for assignments or projects. At least sporadic uses of career-related material in course assignments are quite prevalent (Figure IV.2). Sixty percent of seniors in spring 1996 said they had at least once made a classroom presentation or written an essay in an 11th or 12th grade English class

FIGURE IV.2
CAREER CONTEXT IN ACADEMIC CLASSES IN 11TH AND 12TH GRADES



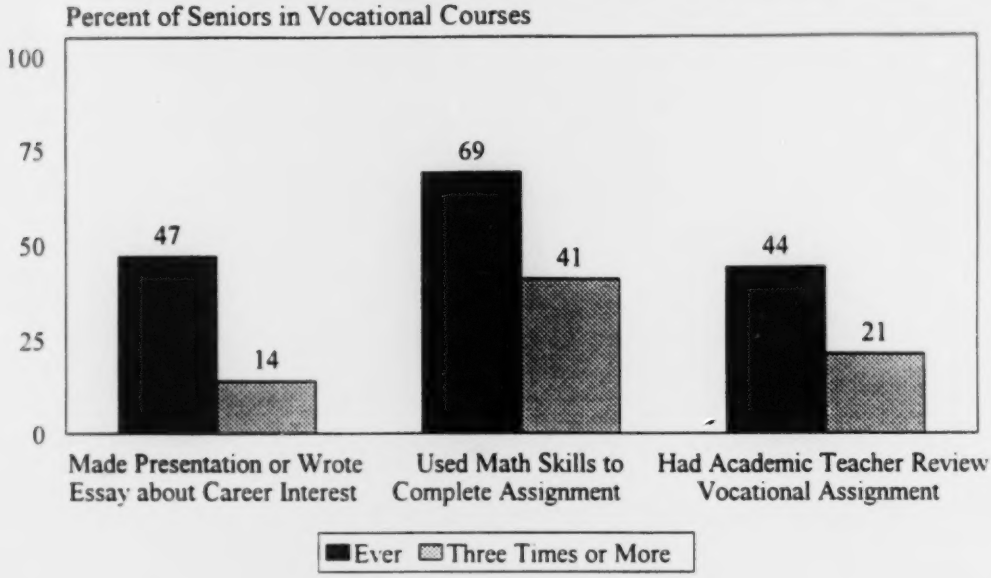

SOURCE: 1996 survey of 12th graders conducted by Mathematica Policy Research, Inc.

about a career that interested them. A similar proportion had used math to solve problems that were related to a job or career in which they were interested. Just under half of the seniors in the in-depth study partnerships said they had used scientific principles to solve problems related to a career interest in a science class. In general, however, such linkages do not appear to be frequent for most students; only between one-fifth and one-third of the students said they recalled completing such assignments more than twice during 11th and 12th grade.

**Vocational Classes Often Draw on Academic Skills.** Staff in many schools say they want to increase academic rigor in vocational classes. However, the first site visits revealed few examples of specific ways in which schools are currently working to increase the emphasis on academic skills in vocational courses. Nevertheless, the student survey confirms that at least at some modest level, vocational classes seem, to students, to call on their academic skills. About half of all seniors had taken at least one

vocational-technical course in 11th or 12th grade. Three indicators were observed as a baseline for measuring future change in vocational classes (Figure IV.3):

FIGURE IV.3
USE OF ACADEMIC COMPETENCIES IN VOCATIONAL-TECHNICAL COURSES IN 11TH AND 12TH GRADES




SOURCE: 1996 survey of 12th graders conducted by Mathematica Policy Research, Inc.

- ***Students Asked on Occasion to Write or Speak About Careers.*** Some vocational teachers try to engage and improve students' communications skills by having them write essays or give oral presentations about the career area they are studying in their class. About 47 percent of the students who had taken a vocational course in 11th or 12th grade reported they had had such an assignment, but only about 14 percent more than twice.

- ***Use of Basic Math Skills is Common.*** Nearly 70 percent of the students who had taken a vocational class in 11th or 12th grade said they had used math skills to complete an assignment in their vocational class, and almost 40 percent said they had used these skills for at least three assignments. The use of math skills is, we suspect, especially common in business classes, which are the most popular occupational course.[4]

[4]There is no way from the survey data to gauge the level of the math skills students used. Field observation suggests that in most cases students are referring to basic computation skills rather than higher (continued...)

- ***Academic Teachers Sometimes Review Assignments.*** One strategy for increasing the emphasis on communications, math, or relevant scientific principles in vocational classes is for academic teachers to collaborate with vocational instructors. For example, they can jointly prepare curriculum and share in the review of students' work. Although our site visits do not suggest this is done in an ongoing systematic way, the student survey suggests that many students in vocational courses at some point get attention from academic teachers as well as their vocational instructor. About 44 percent of the 1996 seniors who had taken a vocational class in 11th or 12th grade said that an academic teacher of English, math, or science had at some point reviewed or graded an assignment they had completed in their vocational class.

**Few Students Are So Far in Career-focused Programs of Study That Feature Integration.** The vision of curriculum integration set out in the STWOA goes beyond generic links between academic and vocational skills and instruction. The ideal put forth in the legislation is that students would benefit from links between academic and vocational curriculum built into a career major program of study. Generic curriculum integration, for example, could be achieved by occasionally asking students in their English classes to write an essay about whatever career interest they might have. A more focused and sustained integration could occur in the context of a career major program that groups students together for key academic classes. For example, students in a Manufacturing and Engineering Technology major might take English and science classes together. In their English classes they might be asked to write an essay about the physical and emotional stresses faced by employees in a particular manufacturing industry that interests them, or where they had gone for workplace experience. The assignment would then have value not only as a writing assignment but as a basis for class discussion that would be relevant to all of the students' emerging career interests. Early evaluation site visits suggested, however, that such fully developed career majors, with students clustered by career interest in their academic classes, are not common and that they serve relatively few students.

The 1996 student survey confirms that, at this early stage of STW implementation efforts, relatively few students experience curriculum integration in the context of fully developed career majors

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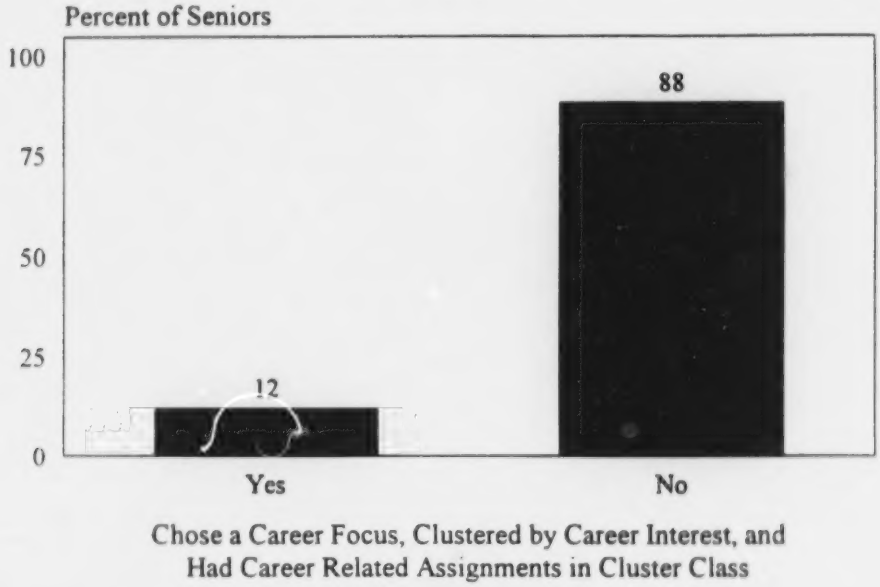
[4](...continued)
mathematics.

(Figure IV.4). About 17 percent of the 1996 student sample were involved in a program that involved

FIGURE IV.4
INVOLVEMENT IN CAREER-FOCUSED PROGRAM OF STUDY BY 11TH GRADE




SOURCE: 1996 survey of 12th graders conducted by Mathematica Policy Research, Inc.

selecting a career interest and taking at least some academic classes designed for students with that same career interest. Of those students, about two-thirds (12 percent of all seniors) said that in the subject for which they were "clustered" by career interest, they had at least once been given an assignment concerning their career interest or a workplace activity, or had a teacher use classroom examples relevant to that career or workplace activity. We thus estimate that 12 percent of the class of 1996 in the in-depth study states' partnerships were involved in what could be called the "full school-based component" of a STW system--a career major involving grouping of students by career interest in at least some academic classes where curriculum focused to at least some degree on the students' career area.[5]

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[5]As noted earlier, a more "relaxed" definition of a career major could be used. Students who selected a career interest to plan for (but were never clustered with other like-minded students in an academic

(continued...)

## C. RAISING ACADEMIC AND TECHNICAL SKILL STANDARDS

STW systems are expected not only to reorganize school curricula, but also to raise the standards students have to meet. Two specific expectations concerning strategies for raising student achievement levels were set forth in the STWOA. First, states and local partnerships are expected to coordinate their development of STW systems with their efforts under the 1994 Goals 2000: Educate America Act. This law provides funding for development and implementation of challenging academic standards in core subject areas, curricula and assessments that reflect upgraded standards, professional development opportunities to help teachers deliver new curricula, and accountability procedures to promote improved learning. Second, the STWOA expects that states and local partnerships will upgrade technical skill instruction and promote the use of industry-based skill standards and portable skill certificates. These efforts could, to some extent, draw on work by various industry associations on voluntary skill standards, with support from the National Skills Standard Board (NSSB) established under the Goals 2000 Act.

An important issue for the future is how close a link will be forged between efforts to create STW systems and efforts to raise standards for students' academic and technical skills. At the state and local partnership level, many STW leaders argue that raising standards must be a central part of their efforts. They stress, for example, that career majors and curriculum integration must be viewed as efforts to raise standards if they are to be accepted and embraced by parents, students, teachers, and employers. Initial site visits were able to give only limited attention to the role of skill standards in STW implementation efforts; this topic will be examined more closely in later stages of the evaluation. However, the first stage of the evaluation offered preliminary insights into three specific questions that will merit further scrutiny: (1) How central are STW components to academic reforms? (2) How closely linked are efforts to improve

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[5](...continued)
class), and who had on at least three occasions been given assignments or examples related to their career interest, made up 24 percent of the total student sample.

academic and technical achievement? (3) What use is likely to be made of national skill standards in efforts to implement school-based components of STW systems?

### 1. STW Viewed So Far as Peripheral to Academic Reform in Most States

So far, STW reforms are viewed more often as enhancements to academic reforms, rather than as a fundamental part of school change. Most education reform strategies in the in-depth study states focus on raising academic standards, introducing assessment and accountability, and expanding local control. In general, state funding, directives, and guidelines focus the attention of districts and schools on these general reforms by requiring the incorporation of new curriculum frameworks, preparation of students for high stakes proficiency tests, and greater involvement of parents in school affairs. Except in Oregon, curriculum integration and career majors are neither given the same priority as other aspects of education reform, or treated as preferred implementation strategies for improving student achievement. In most schools, highest priority is placed on meeting basic state and district education reform requirements first; curriculum changes related to STW objectives, such as career majors or integration, are viewed as "add-ons." Although career majors as rigorous programs of study could be a vehicle for setting higher standards, they have not generally been viewed in that light in the in-depth study states, except in Oregon.

Making STW implementation a more central aspect of education reform faces several challenges:

- ***Some education reform priorities can conflict with an emphasis on STW components.*** The focus on raising academic standards can crowd out room in students' schedules for electives that might be important elements of career majors or career awareness and exploration. In Florida, for example, the 1986 reform bill raised academic graduation requirements and reduced both the number of vocational credits students were allowed to earn and the number of vocational programs a district could offer.

- ***Schools are faced with heavy and competing demands.*** School staff in most states--even in Florida, Massachusetts, and Michigan, where academic standards and frameworks are still being developed--feel pressure to implement changes required by education reform. In several states, we encountered some school staff who feel overwhelmed by education reforms and unable to respond fully to STW ideas. Where new curriculum frameworks and proficiency testing are just unfolding, some teachers were understandably reluctant to embrace STW curriculum concepts until the details of new state education policies were

clarified. Career majors and curriculum integration are not yet emphasized as key strategies for academic improvement in seven of the states, so they receive less attention than those called for in earlier general reforms.

- ***Performance assessment generally omits STW measures.*** Reform efforts in Maryland, Kentucky, Michigan, Ohio, and Wisconsin have introduced proficiency testing as an incentive for students, schools, and teachers to perform well. These tests generally assess core academic achievement, which of course is one measure of how well STW reforms are working. However, the focus of testing often drives what schools emphasize, and so far efforts to measure students' understanding of careers, problem solving, and teamwork skills are rare. Some tentative efforts have been made to include them in testing. Oregon planned but then dropped measures of skills in technology use and teamwork. Kentucky and Maryland are experimenting with ways to measure such outcomes in state-mandated assessment; in Kentucky the assessment of these outcomes will likely rely on student portfolios. So far, however, it has been difficult to develop useful measures of these skills.

As academically focused education reforms progress, greater attention may be paid to overcoming some of these barriers. State agencies may be more inclined to promote career majors and curriculum integration. At the local level, district and school staff may be able to turn greater attention to learning about concepts like career majors.

**2. Academic and Technical Standards Increasingly Linked in Occupational Programs**

At the state and local level, staff responsible for vocational programs clearly articulate the importance of integrating rigorous academic and industry-validated occupational skills in new standards. Among career technical education staff, STW systems are seen as a complementary enhancement to vocational program improvement. This perception is due in part to the fact that vocational education staff are commonly given the position of leadership in STW implementation. In Florida, Maryland, Oregon, and Kentucky, responsibility for the department of education's role in moving STW reforms forward is assigned primarily to the vocational education units.

Clear efforts to develop vocational frameworks that incorporate industry-based skill standards and academic competencies can be found in half of the in-depth study states. These efforts, which vary in breadth and stage of implementation, include the following:

- **Wisconsin** is incorporating industry-based standards for state-approved youth apprenticeship and skill-certified co-op programs into curricula and training plans for both the school-based and work-based components. These standards include both occupational and academic competencies.

- **Michigan** began a project in 1996 to cross reference the state's core academic standards with national industry skill standards in particular occupational areas, in order to highlight areas of commonality and importance for local curriculum developers. This process was already completed for the standards developed by the National Institute for Automotive Service Excellence, and the state wants to complete this task for the metalworking skills developed by the National Skills Standard Board (NSSB) project, in which Michigan experts are participating.

- In **Oregon**, most employer input into competency standards is at the local, rather than state, level. Employers and educators in many communities are working together to develop required academic and occupational competencies for the CAM sequences that will be available in their area.

- **Ohio**, since the early 1990s, has involved employers and educators in updating competency objectives for the 64 state-defined occupational areas. By the end of 1996, new competency lists had been developed for 34 of them. These Ohio Competency Analysis Profiles (OCAPs) list occupational, employability, and academic competencies required for entry-level work in each area. OCAPs identify the full list of language arts, mathematics, and science skills that the state expects students to acquire during high school, but also identify the specific competencies that participating employers deem relevant for their particular occupational area. A similar process has been completed for broader categories of career/occupational areas represented by Ohio's state-approved Tech-Prep programs, producing lists of competencies for entry to and completion of two-year technical degrees.

Such efforts to promote more challenging academic and technical standards in vocational curricula have raised some concerns, however. Preparation of assessment tools to measure proficiency based on these standards has lagged behind the development of the competency lists, and well behind proficiency testing of core academic skills. There is thus no information about students' ability to meet the new standards, and no urgent incentive for schools to adopt and incorporate the standards. Some state staff point out that keeping the standards current, particularly the technical competencies, will be an ongoing and costly effort. Other state agency and local staff are wary about the resulting consequences of stiff new achievement standards being applied to the population of students that has traditionally been served by vocational education programs.

### 3. National Skill Standards Welcomed, but Their Current Narrow Focus Is a Concern

Developing employer-validated skill standards that reflect wide consensus across an industry is a complex process. It entails convening a sanctioned group of employers, and reviewing or developing competency lists of essential occupational and academic skills, in enough specific detail to provide a basis for curriculum and assessment instruments. The process requires time, money, and expertise that are often in short supply at both the state and local levels.

Several states included in the in-depth studies have, however, committed resources to developing industry-validated skill standards. State agencies in Ohio and Wisconsin have spearheaded efforts to develop skill standards in particular occupational areas, as discussed earlier. Kentucky has awarded grants to statewide business associations, including the Kentucky Restaurant Association and Associated General Contractors (construction trades), to develop skill standards in those areas. At the local level, efforts to develop industry-based skill standards are limited within the in-depth study partnerships because this aspect of STW systems appears to be a relatively low priority and because resources are limited.

There is, on the other hand, wide interest in adopting national skill standards once they become available through the NSSB. The products of the NSSB endeavor are expected in most cases to be more recognizable and portable than those developed and approved by state or local groups of employers. The in-depth study states generally have a policy of adopting national standards as they become available. Michigan, Ohio, Kentucky, Florida, and Maryland, for example, have already disseminated information from some national standards projects to communities with occupational programs in the relevant areas at the secondary or postsecondary levels. For example, national standards are currently integrated into Kentucky's postsecondary technical curricula for welding, auto mechanics, auto body, and hospitality. The Michigan Department of Education has already distributed national standards for machining, CAD, electronics, automotive repair and service, welding, and printing, and high performance manufacturing to school districts. Moreover, by 1999 the state hopes to align all trade and industry (vocational) programs

with national skill standards as they are developed. Michigan even plans to mandate the use of skill standards. For example, in order to receive state funding, automotive services programs must be certified by the National Institute of Automotive Service Excellence by 1999. Schools will be able to offer noncertified vocational programs, but will not have access to special state funds for higher cost programs.

The specific occupational focus of some of the national skill standards projects seems, to some STW proponents, to conflict with the idea of organizing studies around broad career areas. Some of the 22 pilot projects were targeted to broadly defined career areas like high performance manufacturing, bioscience, or health care, but others focused on specific fields such as industrial laundry, welding, and computer-aided drafting and design. In Oregon, education leaders are interested in broader standards to suit the state's career clusters (CAM areas), and view some of the NSSB standards as potentially useful at the postsecondary level but inappropriate as guides for secondary programs. As a result, there has been some interest in Oregon in the possibility of developing industry standards with broader definitions, or at least in examining the national standards as they are distributed to see if core standards that are common to a wide range of related occupational fields can be identified.

Some observers have voiced concerns that the early process for developing skill standards in the national pilot projects left academic and occupational skills relatively unintegrated. Bailey and Merrit (1995) examined the approach to identifying academic and technical skills taken by the 22 projects. They found that in 15 projects academic skills were being differentiated and listed separately from technical skills, or being defined with some application to a generic workplace setting, but remaining quite distinct from occupational skills. Only six of the projects, in their view, defined skills in a way that integrates academic and vocational skills, in keeping with a "professional model" view of workers' role in high performance workplaces.

Thus, important questions remain about how the national skill standards enterprise contributes to STW implementation. The original 22 pilot projects have released documentation of their standards, but many

vocational programs and STW partnerships target other occupational or career areas. Some state education agencies and STW offices have questioned the utility of skill standards for very specific occupations, because they view their mandate as exposing and preparing students for a wide range of careers within an industry. The NSSB itself has taken steps to address these concerns by reorganizing its future standard development efforts around clusters of occupations. Thus, acceptance and use of national skill standards is likely to depend on local decisions and the changing course of the national standards endeavor.

## V. LEARNING BY WORKING: STUDENTS' WORK-BASED ACTIVITIES

STW proponents view work-based learning as an essential ingredient in helping students prepare for careers. Work-based activities are intended to inform students about careers they might want to enter, motivate them to succeed in education, and help them develop skills. Brief job shadowing experiences can serve career awareness and motivational purposes. To help students develop general workplace skills and technical skills, however, the STWOA envisions more extended workplace activities (preferably paid) that combine work experience with instruction related to all aspects of the industry where students work. Worksite activities are to be linked to school curriculum, so students can apply skills they learn in class.

The process of developing such workplace opportunities is a major focus of STW implementation. The first evaluation site visits in the eight in-depth study states and the 1996 baseline survey of high school seniors in those states suggest the following early findings:

***Early Findings on Work-Based Activities***

- ***The development of work-based activities is the top early priority of most local partnerships.*** Spurred by state and local goals to serve more students, partnerships have focused much of their energy on developing work-based activities.

- ***Practical constraints lead partnerships to a broad definition of work-based learning, in order to involve more students.*** Employers' work schedules, locations, skill requirements, and working environments so far are making it difficult to develop large numbers of extended, paid positions. Some partnerships thus focus more on activities that are shorter, less intensive, school-based, or unpaid.

- ***Schools are at this early stage playing a relatively modest role in developing intensive workplace activities for high school students.*** Although 88 percent of all 1996 high school seniors in the in-depth study sites had obtained a paid job at some time during high school, about 15 percent had ever obtained a job or training position through a school program or school staff.

- ***Most partnerships are just beginning to connect worksite activity with school curricula.*** About 16 percent of 1996 seniors in the baseline survey cohort had paid or unpaid positions that involved classroom assignments drawing on worksite skills and some consideration of worksite performance in school grades.

This chapter focuses on three issues that pertain to work-based learning. Section A examines state and local strategies for developing work-based activities, including the techniques and resources used to recruit employers, the kinds of work-based activities partnerships are developing, and the extent to which partnerships target work-based activities to particular groups of students. Section B documents the overall rates of student participation in work-based activities, including the jobs and internships students obtain on their own and those they find through school. Section C describes the quality of work-based activities and examines whether the opportunities students obtain through school have more features promoted by the STWOA than positions that students find on their own.

## A. STRATEGIES FOR DEVELOPING WORK-BASED LEARNING

The priority that states have given to work-based activities is evident in their implementation goals. Although there are clear differences in their relative emphasis on workplace components in early STW implementation, the eight case study states are all planning to increase the quantity and quality of students' work-based activities. Four of the eight states--Massachusetts, Michigan, Kentucky, and Wisconsin--have established ambitious numeric goals. Massachusetts aims to have about half of all students participate in structured work-based learning linked to their school curricula in 11th or 12th grade. Michigan's goal is for all high school students graduating in 2000 to have at least one work-based learning experience of some kind and for 50 percent to have a "structured, paid, work-based learning experience." Kentucky plans to place half of all students in paid or unpaid jobs by 1999 and serve 90 percent of all students by 2002. Wisconsin's target is that one of every five graduates in 2000 will have earned an industry skill certificate as the result of involvement in a youth apprenticeship or co-op program.

Partnerships' success in expanding work-based activities and approaching state targets will depend, to a large extent, on the design of their initiatives. In particular, three factors will affect partnerships' progress:

1. The priority given to work-based learning and the approaches taken to encourage employer participation
2. The kinds of work-based activities partnerships emphasize
3. The particular groups of student for whom partnerships seek to expand work-based learning

## 1. Expansion of Work-Based Activities Represents the Top Priority of Most Local Partnerships

Recruiting employers to provide learning opportunities for students is a challenge, particularly with regard to the type of structured, paid activities envisioned in the STWOA. Employers cannot always count on recouping their investment in each student in strictly quantifiable returns, because many are likely to go on to other education or employment after benefiting from the employer's investment in training them. Some employers, to be sure, see benefits to their business in strengthening their public image, but that motive is often served by highly visible but quite small-scale workplace programs sponsored even by very large firms. Some employers, of course, are willing to invest resources in training students simply to make a contribution to their community. Other researchers, however, have found that a firm's participation based on public spiritedness is often initiated by one or two managers, which may limit the scope or duration of the firm's involvement (Williams 1996).

Recognizing this challenge, most local partnerships are making expansion of workplace activity one of their first priorities. Although partnerships recruit employers for a variety of functions--including serving on governing boards and providing feedback on curriculum--they are seeking employers in large numbers to provide some form of workplace opportunities for students. Recruiting employers often is the primary assignment given to staff hired by a partnership. Some partnerships turn to two other approaches to engaging employers: (1) using intermediaries to recruit employers, and (2) offering subsidies to offset employers' costs.

**Intermediaries Are Helping to Recruit Employers.** By involving employer intermediaries, some partnerships have taken advantage of these institutions' networks of contacts and employers' interest in

strengthening their own industry. Partnerships have forged relationships with trade associations, chambers of commerce, Private Industry Councils, and business-education collaborations, because staff of these intermediaries often have valuable contacts with firms in an industry. Intermediaries can motivate employers by appealing to their collective interest in developing a skilled local labor force, arguing that they will benefit in the long run even if they cannot anticipate a short-term positive return on their investment. For example, Cleveland's Youth Opportunities Unlimited (YOU) has successfully engaged the Cleveland Advanced Manufacturing Program and the Westside Industrial Employment and Retention Network. The two associations were interested in expanding the supply of skilled manufacturing workers in Cleveland and helped YOU develop internships and training plans for students in a manufacturing STW program at one Cleveland high school.

**Some Local and State Policies Aim to Reduce Employer Costs.** Some local partnerships have sought to expand employer participation by reducing the costs associated with extended worksite learning opportunities. While the STWOA prohibits subsidizing student wages with federal STW funds, the STW grants can be used to offset other employer costs. Some partnerships have focused on supporting employer activities that are likely to enhance the quality of work-based activities. For example, one Kentucky partnership plans to pay for detailed analysis of the job skills required in particular positions at member firms, to establish target competencies and help employers streamline student screening, training, and evaluation procedures. Other partnerships--such as the St. Johns River partnership in Florida--have paid for liability insurance to reduce the financial risks posed by students' presence in the workplace.

Several states have recognized that their STW implementation goals can only be achieved if state-wide policies support local partnerships' employer recruitment efforts. The eight in-depth study states provide examples of three strategies to expand employers' incentives to offer the more intensive forms of work-based activity, which impose the greatest burden:

1. ***Wage and Training Subsidies.*** In Wisconsin, the state will pay half of youth apprentices' wages for the first 500 hours at the worksite to compensate employers for mentoring costs. In Ohio, companies participating in the state's first set of STW demonstrations received state STW funds to offset the costs of training and supervising students.

2. ***Tax Credits.*** Oregon provides up to $2,500 in tax credits for firms sponsoring youth apprentices. In Michigan, a new state law allows firms to take a tax credit, up to $2,000 per year, equal to half of each student's wages and benefits, to offset the costs of providing on-site instruction in a registered youth apprenticeship program.

3. ***Incentives for Employer Intermediaries.*** To expand work-based learning opportunities, Kentucky, Maryland, and Massachusetts have provided funding to employer intermediaries. For example, Maryland has dedicated almost 10 percent of its implementation grant to a state-level incentive program of grants to employer associations, supporting efforts to recruit employers, design industry-specific workplace activities for students, and train worksite mentors. The state also requires local partnerships to set aside 25 percent of their grants for similar incentive funds, which they can use with considerable discretion.

These state initiatives are a start toward one important aspect of a statewide STW system, but their success is likely to depend on complementary efforts to ensure that employers are fully aware of them and able to take advantage of them. For example, Maryland's employer incentive fund is a potentially effective tool for engaging employer associations, but in the first implementation year some partnership and employer staff in in-depth study sites were confused about how the fund could be used. By documenting and promoting alternative models for involving trade associations, the state could enhance local capacity to use the fund. The impact of wage subsidies and tax credits may be limited unless state and local partnerships address other local factors impeding the growth of these apprenticeships (such as the need for school curricula that complement the workplace component of apprenticeship programs).

**2. Local Circumstances Affect Number and Types of Workplace Activities**

The idealized form of workplace learning highlighted in the STWOA--a paid position involving structured training and work experience, linked to the school's curriculum--is only one of several types of activity currently found in STW partnerships. Of the 39 case study partnerships visited, only 2 had developed concrete plans to involve more than a quarter of their high school students in such activities at

an employer workplace.[1] Most partnerships instead focus much of their energy on developing other forms of workplace learning that are less costly to employers or more attractive to students. The mix of opportunities partnerships develop reflects three types of constraints imposed by local circumstances:

1. ***School and Partnership Constraints.*** Difficulties in modifying students' class schedules; the number of staff available to recruit employers and monitor students in the workplace; school staff concerns that worksite activities could dilute the academic focus of high school programs

2. ***Employer Constraints.*** The number, variety, and size of local employers; employers' proximity to students' schools and homes; compatibility of employers' work schedules with the schools' existing class schedule; union concerns about displacement; employer concerns about the risks to students, coworkers, or equipment

3. ***Student Constraints.*** Students' skills and work readiness, students' need and desire to earn wages; schedules of students' outside jobs and extracurricular activities; lack of transportation; perceptions that work-based activities are "vocational" and thus inappropriate for college-bound students

Local circumstances present opportunities as well as constraints. In most local partnerships, programs offering work-based activities already exist; these programs provide models for the future. Even when no work-based learning programs exist, schools usually have forged some relationships with local employers to secure mentors, equipment donations, or feedback on curricula. Partnerships are building on these preexisting relationships by expanding the roles that participating employers perform and recruiting additional employers. To a large extent, what is available now is the result not of explicit strategy, but of what is possible.

As STW initiatives expand, the challenges they face change. Providing more worksite activities usually means serving students with more diverse interests and capabilities. Partnerships must also reach out to new employers, who may want to provide a different mix of work-based learning opportunities to students. Because of their own constraints and opportunities, partnerships usually must develop worksite

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[1]The exceptions were two partnerships that focused their initiatives entirely on a single high school and therefore could serve a large fraction of students by developing 100 to 200 internships.

activities that deviate from the "intensive" model envisioned in the STWOA of a paid position involving structured training and work experience. Partnerships typically focus on four additional forms of workplace activity: (1) less intensive activities (such as job shadowing or worksite visits), (2) unpaid internships and community service projects, (3) positions involving worksite training but no actual work experience, and (4) school-based enterprises. Each activity avoids some constraints and serves some purposes better than others.

**Brief Visits Can Supplement or Substitute for More Intensive Activities.** Job shadowing and worksite visits are easier to arrange and monitor than longer and more intensive activities and, thus, are more commonly developed in large numbers. Many partnerships have focused on brief visits to a workplace as their principal strategy for exposing students to the workplace. This strategy is common, for example, in some areas of Oregon where there are few large employers. While these brief visits allow students to get a sense of work environments and jobs (see Chapter 3), they rarely provide opportunities to develop general work-readiness habits or to learn or apply specific occupational skills. Some partnerships, however, have linked brief worksite visits to more intensive work-based learning occurring either at school or at a worksite.

Some partnerships use worksite visits to provide context or motivation for a school-based project. In Portland's David Douglas High School, for example, students work on projects developed by employers. Although students visit the workplace, much of the work is carried out at school. This arrangement has several advantages. First, while employer staff help conceive and review students'

**Worksite Visits Can Be Linked to Work-Based Projects at School**

In Portland's David Douglas High School, a consultant trained groups of students in Total Quality Management. Local businesses then assigned specific projects to the groups. For example, one group of students was asked to survey a utility company's employees to determine why they were purchasing copying services from an external vendor rather than using the company's own high-tech copying equipment. Students visited employer sites, interacted with employer staff in the classroom and workplace, and presented their finished products to employer staff. In general, such projects give students opportunities to develop and apply problem-solving, technical, and academic skills.

assignments, they are relieved of much of the day-to-day burden of supervising students' work. Second, school staff can more easily monitor students' work when a larger portion of it occurs at school. ' Third, because a great deal of the work occurs off-site, employers do not feel as pressured to ensure that projects contribute directly to immediate production needs; thus, they are more likely to support projects that provide exposure to various aspects of the industry, exercise a variety of skills, and link with school curriculum than they would be with paid jobs or internships.

In other cases, brief job shadowing is used to prepare students for more intensive worksite internships. This arrangement ensures that students have some sense of the employer's work environment before they commit to an internship. For example, in Cincinnati's Taft Career Academic Program (TCAP), students in 8th, 9th, and 10th grades go on a series of job shadows to help them choose a paid internship designed to run from the middle of 11th grade to the end of senior year. Because of the potential length of these internships, TCAP staff want to ensure that students are properly matched to employers.

**Unpaid Internships Reduce Costs and Take Less Time.** Student wages, whether fully paid by the employer or subsidized, can be a substantial cost in the intensive workplace activity model envisioned in the STWOA. The time required to define students' responsibilities, provide training, and monitor and evaluate students' performance also represents a considerable cost, and some employers prefer paid over unpaid interns because they believe the former will work harder and display fewer behavior problems. Many other employers, however, say they cannot afford to pay student interns or apprentices, and public funding to cover student wages is available in only a few states. Unpaid internships are often a cost-saving alternative.

Unpaid internships have their own limitations. They almost always involve less time at the worksite. According to staff in a variety of partnerships, students are less inclined to commit to an extended internship if it is unpaid, preferring to keep after-school hours free for their own paid jobs or other activities. As a result, internships often are short and must occur wholly during the school day; sometimes

this means just an hour (or even less) at the workplace each day of the internship, with little opportunity to develop in-depth technical skills.[2] Some schools (particularly comprehensive high schools with no preexisting co-op program) try to squeeze in an unpaid internship during one or two class periods. For example, Franklin County's Greenfield High School in western Massachusetts developed unpaid internships for 15 students in the 1995-1996 school year. Although the school operates on a block schedule with 85-minute class periods, travel reduced students' time at the workplace to about an hour each day--a period in which, participating employers acknowledged, students could not accomplish much.

Community service programs provide a form of unpaid internship in some partnership schools at low cost, but they often emphasize developing the habit of public service rather than exploring careers. These programs provide some practical work experience, expose students to social or cultural issues, and encourage the habit of volunteering. Although these programs usually do not explicitly focus on career preparation, they are large and give students the opportunity to work in a variety of settings. For example, nearly 2,000 students in Worcester, Massachusetts--about a quarter of all students attending the district's middle and high schools--participate in the six-year-old "Worcester Kids Care" program, helping in homeless shelters, in nursing homes, or with special events such as plays for hospitalized children. Volunteer work is becoming widespread in Maryland because the state now requires students to complete 75 hours of community service to graduate from high school. Both the Worcester and Maryland community service efforts were launched well before the start of the partnerships' STW initiatives and so far have received relatively little attention from partnership coordinators. Although one Maryland partnership hopes to take advantage of students' community service activities, no specific plans have been developed yet.

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[2]While paid positions such as co-op jobs often start before the end of the school day, they usually involve more time at the worksite, because most students are flexible about when they leave work if they are earning an hourly wage.

**Emphasizing Training over Work Alleviates Liability and Displacement Concerns.** Work experience can help students develop positive work habits and apply their technical skills. In some industries, however, it has proven difficult to put students in positions where they can work side by side with regular adult employees. Many partnerships have had difficulty placing students in manufacturing and construction, particularly in unionized firms. Managers often are concerned that inexperienced young employees may injure themselves or another employee or damage expensive equipment. Representatives of organized labor sometimes object to providing extensive on-the-job training to students, especially when students are paid less than union scale, might appear to displace adult union members, and do not plan to participate later in a registered apprenticeship.

One response to such concerns has been to develop workplace activities that place students in a specially created instructional environment rather than in production work. For example, a Chrysler STW program has provided intensive, carefully structured training (but no work experience) to groups of students from Lake Shore High School outside Detroit. Although the structured training was extensive and costly, Chrysler preferred this design because it reduced the risks of injuring students or raising fears of displacement among its employees.

**Responding to Employer Constraints by Emphasizing Instruction Rather than Work Experience**

About 10 students in the "Academy of Manufacturing, Applied Science, and Engineering" at Lake Shore High School outside Detroit spent five hours a day for seven weeks at an auto manufacturing plant in spring 1996. In specially created workshops away from production areas, they took classes in electronics, hydraulics, pneumatics, robotics, heating and cooling, and integrated manufacturing concepts. This design responded to employer concerns about safety and liability on the manufacturing floor and to union concerns about involving students in production. Group classes allowed delivery of a structured curriculum. This arrangement also simplified transportation and accommodated the employer's insistence that all students arrive as a group on a bus--but it also imposed substantial transportation costs.

**School-Based Enterprises Avoid Most Scheduling and Transportation Problems.** "Work-based learning" is most commonly envisioned at an employer's facility, but advantages can be gained and

problems avoided when students work at school. Work-based learning at school sites typically is easier to arrange, monitor, and link to the school curriculum. The need to arrange transportation to a variety of worksites is avoided.

Aside from the practical hands-on training that occurs in vocational classes, school-based enterprises (SBEs) are the most pervasive strategy for work-based learning at schools in the in-depth study partnerships. SBEs are businesses that students operate (often with some assistance from school staff and local employers) to produce goods and services and market them to the school community and sometimes to the general public. Among the most common SBEs are school banks and stores, as well as restaurants operated by high school culinary arts programs. Although we do not have an exact count, we would estimate that more than half the high schools visited for the evaluation case studies have some kind of SBE.[3]

SBEs play a particularly important role in some of the most isolated rural partnerships, where transportation is a formidable barrier to workplace activities. For example, in Oregon's Region 3 partnership, almost all of the 13 high schools have at least one active student-run business, and these businesses sometimes engage a high proportion of the student body. In one rural high school with a total enrollment of 119 students, 25 of them run a graphics design business that produces customized office stationery and related supplies.

By offering work opportunities in a convenient location, SBEs can engage a diverse mix of students. Students often have difficulty participating in extended internships when they already have time-consuming extracurricular activities or a job that is accessible, pays well, or has flexible hours. SBEs can be easily incorporated into most students' schedules. Sprague High School, in an upper-middle-class suburb of Salem, has involved many high-achieving students with busy schedules by turning some of their

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[3]The local partnership survey component of the evaluation will provide data on the prevalence of school-based enterprises.

extracurricular activities into SBEs and creating work-based projects that build on extracurricular activities. For example, students who play in the school band now take part in the band's financial management and marketing.

SBEs have some advantages over employer-based worksite activities, but they also have two disadvantages. First, since most schools have difficulty creating a diverse range of businesses, SBEs typically offer a very restricted set of career exposure opportunities. Second, SBEs usually provide no exposure to real workplaces, and this limits students' ability to learn about employers' organizations, skill requirements, and behavioral expectations. Although some employers have told partnership coordinators that they are interested in purchasing goods or services from SBEs or providing technical assistance to student managers of SBEs, relatively few employers currently are doing so.

### 3. Most Intensive Workplace Activity Currently Intended for Students in Vocational Programs

Many partnerships aim to involve all students in some kind of workplace activity, but most of the intensive forms of workplace learning still target students enrolled in vocational course sequences. There are three related reasons for this: (1) the legacy of preexisting vocational programs that offer intensive work-based activities, (2) a common belief that these experiences offer the greatest benefits to students who have defined a specific career interest and do not plan to attend a four-year college, and (3) the fact that vocational curricula present more obvious opportunities for linkages to work-based activities than do academic curricula.

Most workplace learning programs that predate the STWOA target vocational students. The two most established programs providing intensive work-based experiences are cooperative education and youth apprenticeship programs. Co-op programs are, by law, related to vocational programs.[4] Youth

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[4]The 1990 Carl D. Perkins Act defines cooperative education as "a method of instruction of vocational education . . . [that includes] required academic courses and related vocational instruction by alternation of study in school with a job in any occupational field."

apprenticeship programs usually include one or more required vocational courses. In part, this reflects the occupations that the first generation of youth apprenticeship programs target. For example, Wisconsin's youth apprenticeship program was initially geared toward technical careers in health services and manufacturing, fields in which many schools already provided vocational courses.

The targeting of intensive work-based activities to vocational students also reflects a widespread judgment that high-achieving students bound for four-year colleges would not benefit by being diverted to workplace activities from a rigorous, traditionally academic course regimen. During the 1980s and early 1990s, educators' interest in intensive work-based activities came in large part from concerns about the deteriorating economic status of young adults who do not attend college. Intensive work-based activities linked to both academic and vocational courses were viewed as a way to motivate students to work harder at school and enhance their employment opportunities. Because they traditionally have served students with weaker academic achievement, vocational programs were a natural focus.

Finally, it is easier to link worksite activities to students' career interests and their school-based curricula when students are enrolled in a vocational program. The choice of worksite can be guided by the tentative career interests that students express when they select a particular vocational course or program. Vocational teachers often can help recruit employers in the industries that relate to their courses and can help prepare their students for the work-based experience.

A few states chose to target the first phase of their STW initiatives on vocational programs, and this choice can have a lasting impact even after subsequent decisions to broaden the range of students served. For example, Ohio and Wisconsin initially supported STW demonstrations that included both intensive work-based activities and vocational curricula. More recently, both states have begun to extend the scope of their STW initiatives to include college-bound students and those not enrolled in any vocational courses. In both states, however, the most intensive workplace activities still are linked to vocational programs. In

part, this reflects the accumulated result of the states' previous efforts, which increased the capacity of vocational programs and their ability to provide related workplace opportunities.

## B. PARTICIPATION IN INTENSIVE WORKPLACE ACTIVITIES

Early STW implementation efforts are just beginning to influence patterns of student workplace activity. In spring 1996, when the first evaluation survey of students was conducted, these patterns were still largely a product of students' own independent activities and of school programs that existed before STW implementation began. Thus, our measures of student worksite activities will be most useful as a foundation for analysis of later survey cohorts to determine whether participation in these activities actually increases or changes by 1998 or 2000.

Students' current patterns of worksite activity are also useful because they indicate some of the challenges partnerships face as they try to expand workplace activities of the sort described in Section A. To the extent that students are already employed on their own, the hours and wages of their jobs are likely to affect the kinds of paid and unpaid activities they will be willing to accept as part of a STW program. Other factors are also important; site visit contacts with students make it clear that many value learning and experience that may help them in the future, and not just wages.

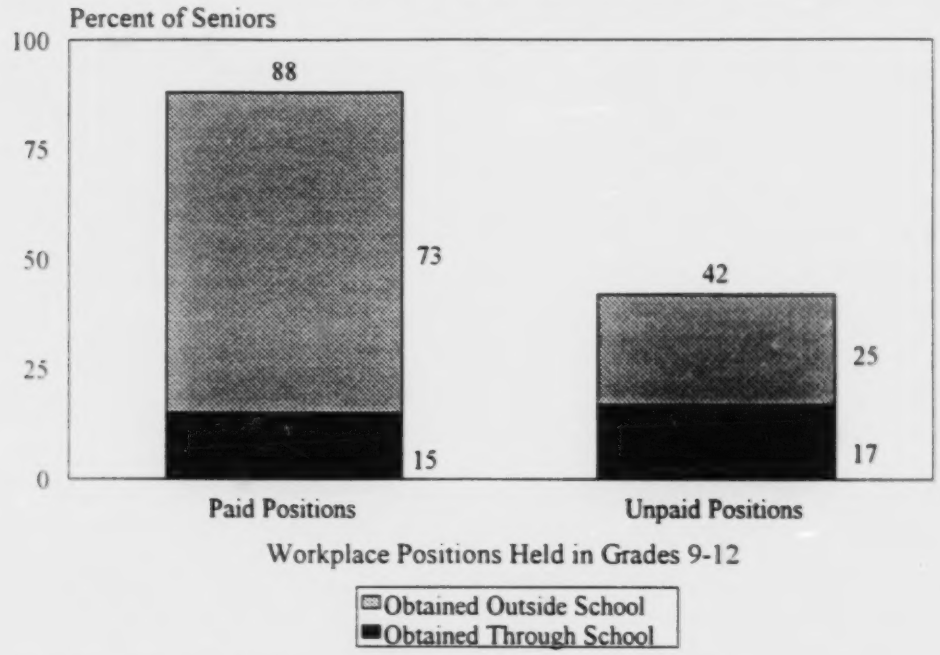
The 1996 survey of high school seniors in the eight in-depth study states' local partnerships provides two measures of current worksite activity. First, we focus on the overall rate at which that cohort of students had engaged in paid employment and unpaid forms of worksite activity during high school, including positions students obtained by themselves and those they found through school programs. Second, we report on the extent to which students had taken part in work-based activities that they obtained through a school program, including jobs, internships, and school-based enterprises. Later, in Section C, we distinguish between the quality of the work-based activities that students find on their own and those they obtain through schools.

## 1. Workplace Activity of Some Sort Is Already Common Among High School Students

Whether students find ways to employer workplaces on their own or through STW programs, their work can provide useful learning opportunities. Jobs, internships, apprenticeships, training programs, and volunteer work can give students a chance to learn about careers and to develop general workplace skills and specific technical skills.

Most students gain some workplace experience during their high school years, in paid or unpaid positions (Figure V.1). The 1996 student survey showed that 88 percent of all high school seniors in the

FIGURE V.1
PARTICIPATION IN INTENSIVE WORKPLACE ACTIVITIES




SOURCE: 1996 survey of 12th graders conducted by Mathematica Policy Research, Inc.

eight in-depth study states' STW partnerships had worked at a paid job at some time.[5] Many students did volunteer work or had some form of unpaid work or training experience. About 42 percent of students in

[5]This estimate excludes casual jobs like baby-sitting or mowing lawns.

the survey sample had held a volunteer or unpaid position during high school; most of this activity (36 percent of all students) was reported as "volunteer work."

Work becomes an increasingly common part of students' lives as they progress through high school (Figure V.2). Paid employment during the school year attracted 56 percent of the student sample when they were juniors and 69 percent when they were seniors. Even volunteer work and other unpaid workplace experiences draw increasing numbers of students over time, reaching 25 percent of all students by senior year.[6]

Many students work heavy schedules in these positions, in summer as well as during the school year. Nearly two-thirds of those who had held a job during the school year or summer described their most recent position as involving more than 16 hours a week, and over 40 percent worked more than 20 hours. Even jobs that students held during the school year were time-consuming; nearly 60 percent of students who had worked during the school year worked more than 16 hours a week. Unpaid positions usually were less demanding; about 85 percent of the students who had held unpaid jobs worked 16 hours or less a week in their last such position.

**2. Schools Arrange a Modest Portion of Students' Workplace Activity**

Most substantial student involvement at employer workplaces occurs as a result of students' personal connections and independent job search efforts (Figure V.1). Although 88 percent of students had held at least one paid position during high school, only about 15 percent of all students had ever obtained a position through a school program or with the help of a teacher or counselor. Similarly, most of those who

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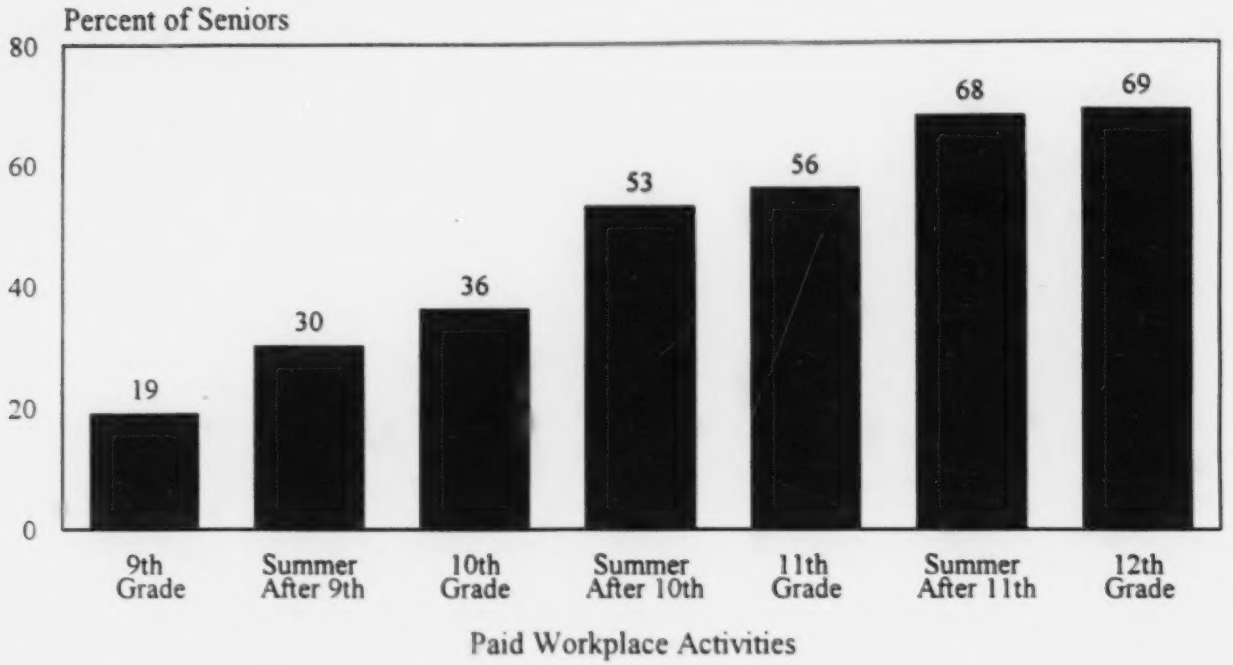
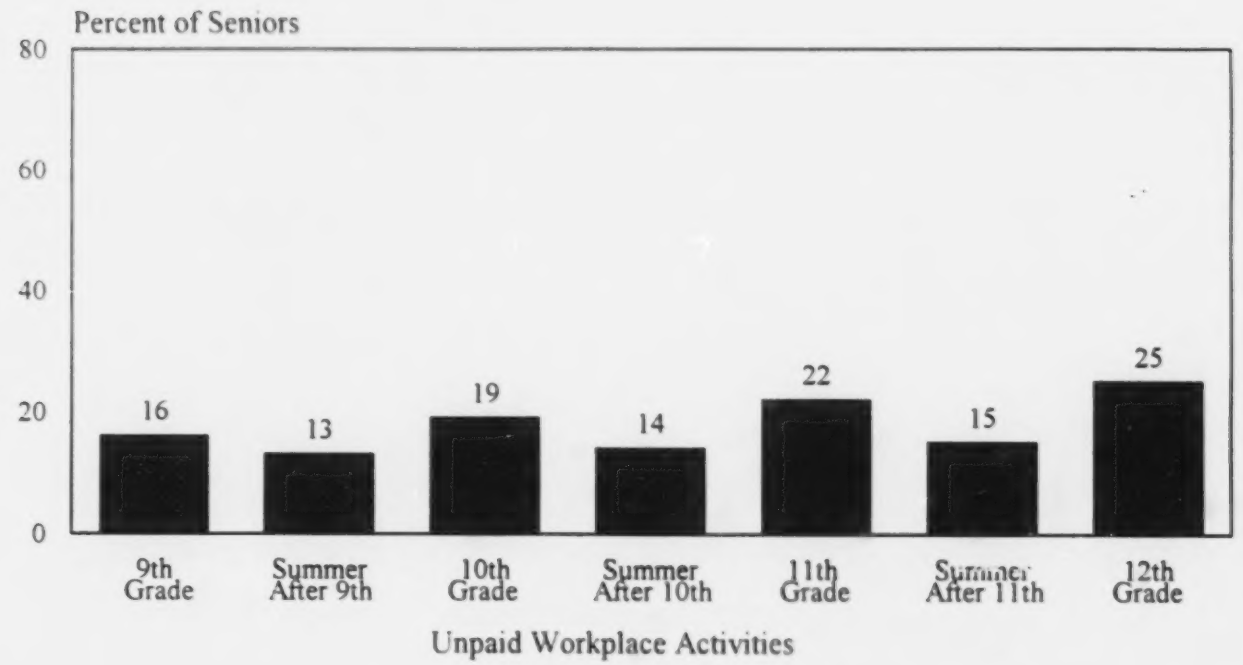
[6]These findings, when compared with earlier findings from the National Education Longitudinal Study (NELS), suggest that there may be some shifting from unpaid to paid work. NELS found that 50 percent of 12th graders in the class of 1992 were employed at some point during senior year and that 44 percent had done some volunteer work in the past two years (Green 1995). Some of these differences could result from differences between the eight STW study states and the nation as a whole. However, general improvement in the economy, increases in youth employment opportunities, and continuing increases in the cost of postsecondary education could also be encouraging teenagers to spend more time in paid employment and less in volunteer work.

FIGURE V.2
PARTICIPATION IN INTENSIVE WORKPLACE ACTIVITIES, BY GRADE




SOURCE: 1996 survey of 12th graders conducted by Mathematica Policy Research, Inc.

had had an unpaid work experience--an unpaid job, worksite training, internship, or volunteer position--found it on their own. About 42 percent of all students had held one of these unpaid positions, and about 17 percent had ever obtained one through a school program.

Expanding the role of STW partnerships in creating workplace learning opportunities will require recognizing the large place that workplace activity outside school programs already plays in students' lives. Expanding work-based learning will require developing new jobs and internships. In addition, however, the student survey findings suggest that partnerships will have to respond to students' interests and situations by adopting some combination of three possible strategies: (1) convincing students to reduce the amount of time they work in their regular after-school jobs in favor of work-based activities developed by STW programs; (2) limiting the time commitment students must make for unpaid work-based activities and, where possible, confining these work-based activities to the school day; and (3) building structured learning into the workplace activities students find on their own and including their existing employers in STW development efforts.

The characteristics of jobs students get through school programs suggest that schools already respond to the competing alternatives facing students. Most of the paid jobs and internships students find through school offer wages comparable to what they can earn in jobs they find on their own. Jobs that students in the survey sample found through school paid an average of $5.43 per hour, slightly more than the average of $5.38 in jobs students found on their own. The paid jobs students found through school gave them almost as many hours of work per week as jobs they obtained independently. The unpaid jobs students found through school, like those they found on their own, take up less time and thus can more easily fit into students' schedules. The average unpaid position developed by school staff involved 8.4 hours of work per week.

SBEs offer opportunities that avoid head-on competition with after-school jobs for students' time, and they attract many students. About 26 percent of 12th graders in the spring 1996 survey said they had at

some time helped run a school-based business that charged money for a product or service. This participation rate should be interpreted cautiously, however, because case study site visits suggest that such a high rate most likely includes many students whose time spent working for the SBE is very limited. (The flexibility to work a limited number of hours is one of the attractions of SBEs from the perspective of students with busy schedules.)

## C. QUALITY OF WORKSITE LEARNING OPPORTUNITIES

Just getting students to a workplace is not the aim of STW proponents. Since most students can find a paid job, STW initiatives focus more on enhancing the quality of students' work experiences. Workplace activities are expected to provide more than a wage and basic job. According to the STWOA, they should expose students to industries that offer promising careers, provide structured training linked to students' school curriculum, and operate with the joint support of employers and schools. An important question for this evaluation, therefore, is whether the worksite activities that students find through school are more likely to meet these criteria than the jobs and unpaid volunteer and internship positions students find on their own.[7] The spring 1996 survey of 12th graders in the in-depth study states' STW partnerships provides baseline indicators of four relevant quality measures for positions students found through school and outside school:

1. Diversity of industries and occupations in which students work
2. Extent of training they receive
3. Existence of substantive links between the workplace and the classroom

[7]Not all jobs students find through school are the result of STW partnership efforts. Many jobs are developed by co-op staff or school counselors who may have little connection with what the partnership considers its STW initiative. Conversely, some jobs that students find on their own are linked in some fashion to a STW program, since school staff sometimes ask students to identify their own work-based activity. The National Assessment of Vocational Education, for example, found that in about 43 percent of all schools, students typically were responsible for finding their own co-op jobs (Stern 1995).

4. Extent to which students' performance at the worksite counts in their school grades

Following a discussion of these four quality indicators, we present an overall summary, based on the 1996 student survey, of the level of current participation in workplace activities that appear to be consistent with the quality demands of the STWOA.[8]

**1. Diverse Settings of Jobs Through Schools Improve Exposure to Careers**

A central objective of STW initiatives is to provide direct exposure to jobs that relate to students' career interests. By working with adults in an occupation or industry they might consider for the future, students can sharpen their interests and goals, and some may acquire skills and work experience that will actually help them get a job in that industry.

The evaluation student survey suggests that, as intended, schools and STW partnerships already broaden the careers students can explore through work. Students whose last paid workplace position was a job or internship through a school program worked in a more diverse set of industries and occupations than students who had found their jobs independently (Figure V.3). Jobs found through schools were much less likely to be in retail stores and restaurants; these jobs accounted for about a quarter of such worksite placements, compared with nearly two-thirds of the paid jobs students obtained on their own. The paid worksite activities developed by schools were more likely to be in banks, insurance companies and other financial institutions, health care facilities, schools, government agencies, or legal and social service offices.

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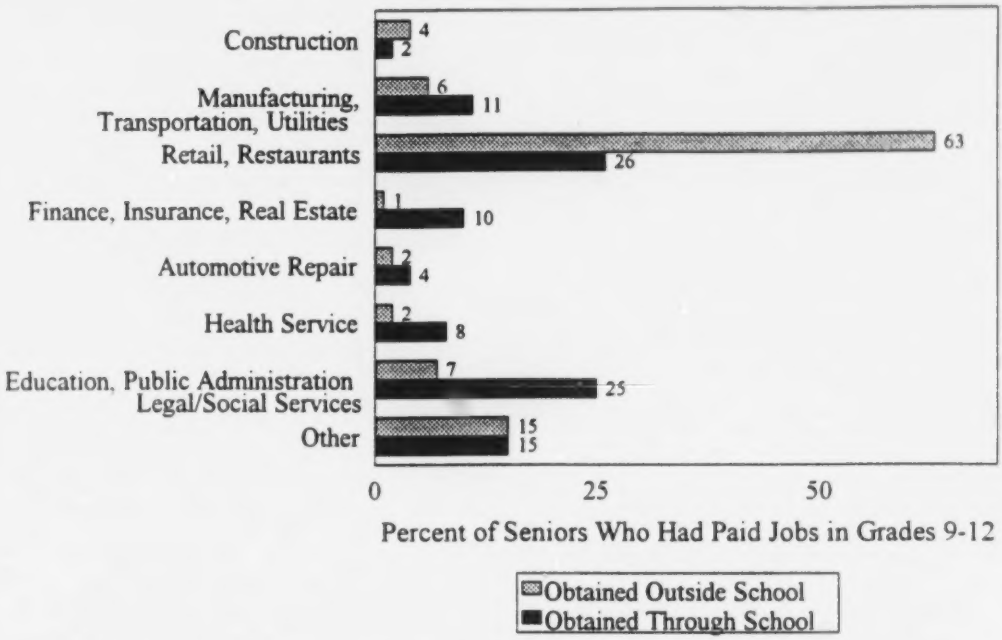
[8]A variety of factors, of course, can contribute to observed differences between the jobs students get on their own and the jobs arranged through school staff or programs. It is possible, for example, that jobs are most available through school in local sites where the economy is strong and there is a wide range of industries and interested employers. It is also possible that students who seek out workplace opportunities through school have particular skills, interests, and motivations that allow them to be placed in different kinds of jobs than would be true for other students. The extent to which particular types of students get positions through school, and high-quality positions, will be explored in later analyses as part of the evaluation.

FIGURE V.3
INDUSTRIES IN WHICH STUDENTS HAVE PAID WORKPLACE EXPERIENCES




SOURCE: 1996 survey of 12th graders conducted by Mathematica Policy Research, Inc.

Ideally, students should gain access to workplace activities in industries or occupations in which they have at least a tentative interest for a future career, but that is not always possible. Several factors can interfere with placing students in workplace activities that match their career interests:

- ***Students' Vague Interests.*** Few students define focused career goals and communicate them clearly to school staff. About 43 percent of students in the survey said they had ever selected a "career major or career area to plan for" during high school. Among students who had, at least one out of eight identified a vague goal such as "business." Many students change their goals; about 42 percent of those who said they had expressed a career goal to school staff had changed that goal at least once. The tenuousness of students' interests sometimes makes it difficult for schools to place them with employers who seek strongly motivated students.

- ***Limited Array of Industry Partners.*** STW partnerships typically focus their employer-recruiting efforts, at the outset, on particular industry sectors or major employers and succeed on some fronts faster than on others. To some extent, where students get jobs, internships, or less intensive activities like job shadowing depends not only on their interests but on the employer partners who have been recruited.

- ***Student Skills.*** Most employers want some say in selecting the students who will participate in the more intensive forms of workplace activity. Employers typically prefer to interview interested students, and they often insist on minimum qualifications defined by students' academic and attendance record at school. In many youth apprenticeship and career academy programs, students must compete for a limited number of workplace positions.

- ***Convenience for Students.*** The locations of workplace opportunities that correspond to students' interests, and the worksite schedule, may be impractical for students if they do not have access to a car or if public transportation is unavailable.

The 1996 student survey data confirm that finding students workplace settings that closely match their career interests is challenging. Approximately one-quarter of the students who had found a paid job or internship through school had expressed an interest in a clearly identifiable industry (such as health, education, or manufacturing) to school staff.[9] Of these students, only 20 percent were placed in industries that clearly matched their expressed career goals (Table V.1). Students were more likely to be placed in a setting that reflects their career interests if the workplace activity was unpaid. Of the students who had clearly defined career interests and got an unpaid position through school, 42 percent were placed in an industry that matched their interests. These findings indicate the general challenge facing STW partnerships, but should not be regarded as precise estimates, because the survey sample includes small numbers of students who aspire to each particular field and who had some workplace activity.

However, students are still more likely to find an opportunity that matches their career interests when they obtain it through a school program than if they find a job on their own.[10] For example, among students who had found their own paid jobs, only 6 percent obtained a position in an industry that matched their

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[9]We focused the analysis on these students because their goals were in clearly identifiable industry sectors. Other students, not included in the analysis, specified goals that were difficult to compare with industry categories. For example, some students specified computers (five percent), law (two percent), or the social sciences (four percent) as career interests. Because students with these interests could find appropriate positions in a wide variety of industries, it was difficult to assess whether their jobs actually matched their interests.

[10]Students who had found their own paid jobs and those who obtained a job through school were equally likely to have defined an identifiable industry as a career goal.

TABLE V.1

SUCCESS IN MATCHING STUDENTS' INTERESTS AND WORKPLACE SETTINGS: PERCENT OF STUDENTS IN AN INDUSTRY REFLECTING CAREER INTEREST

| | Students' Stated Career Interests[a] | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **Health Careers** Medicine, Nursing, Physical Therapy, Radiology Technician (n = 226) | | **Education** Teacher, Early Childhood Development (n = 96) | | **Manufacturing/Engineering** Manufacturing Technologies, Mechanical and Chemical Engineering (n = 77) | | **All Career Interests[b]** Health, Education, Manufacturing/Engineering, Law Enforcement, Fine Arts, Other (n = 519) | |
| Job Type/Match Status | Found Job Through School | Found Job Outside of School | Found Job Through School | Found Job Outside of School | Found Job Through School | Found Job Outside of School | Found Job Through School | Found Job Outside of School |
| **Paid Jobs** | | | | | | | | |
| Percent of Students in Industry Associated with Career Interest | 13 | 6 | 36 | 4 | 33 | 3 | 20 | 6 |
| Percent of Students in Other Industries | 87 | 94 | 64 | 96 | 67 | 97 | 80 | 94 |
| **Unpaid Jobs** | | | | | | | | |
| Percent of Students in Industry Associated with Career Interest | 50 | 8 | 74 | 3 | 1 | 4 | 42 | 6 |
| Percent of Students in Other Industries | 50 | 92 | 26 | 97 | 99 | 96 | 58 | 94 |

SOURCE: 1996 survey of 12th graders conducted by Mathematica Policy Research, Inc.

[a] "Career interest" is the student's response to a school request to select a career major or career area to plan for.

[b] "All career interests" include only those career interests associated with a specific industry such as health careers, education, manufacturing, engineering, law enforcement, or fine arts.

stated career goal, compared with the 20 percent match rate that school staff achieved (Table V.1). The contrast is even greater for unpaid workplace activity.

### 2. Workplace Activity Through Schools Offers More Structured Training

STW systems are touted as a vehicle for providing students with structured training at the workplace.[11] In most entry-level jobs, on-the-job training occurs informally, with supervisors and coworkers helping new employees as they take on new tasks. Informal training can be effective, particularly when it is difficult to anticipate the instruction that a new employee will need. The more informal and unplanned the training, however, the harder it is to coordinate with students' school-based curricula. To assess the extent to which partnerships are providing workplace activities that incorporate structured training, we used the student survey data to examine two characteristics of the positions students reported: (1) the relative amount of time at the worksite spent in training as opposed to routine production, and (2) the extent to which students engage in designated, structured training classes.

**Positions Obtained Through School Focus More on Training.** Most students obtain some training at the workplace, regardless of how they find their positions. About 70 percent of students who had ever worked for pay during high school said they received at least some training in their last position, and over half of those who had unpaid positions received at least some training. Training usually occupies only a fraction of students' time; for example, most students characterize the balance in their last paid job as "mostly work, some training." This is not particularly surprising, since research indicates that young workers are concentrated in relatively low-skill, low-wage jobs (Osterman and Iannozzi, 1993).[12]

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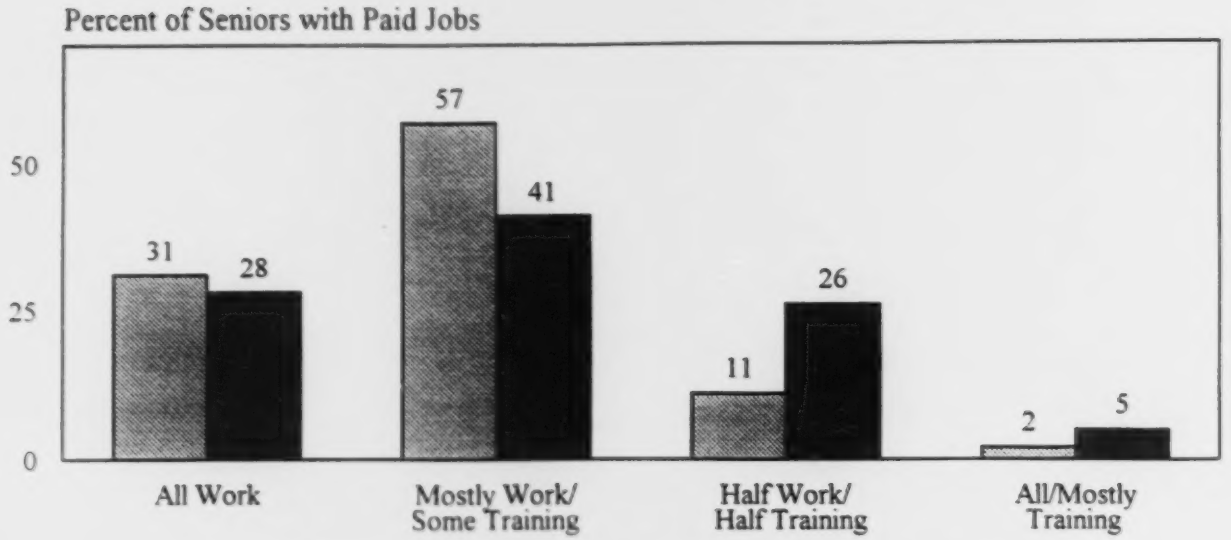
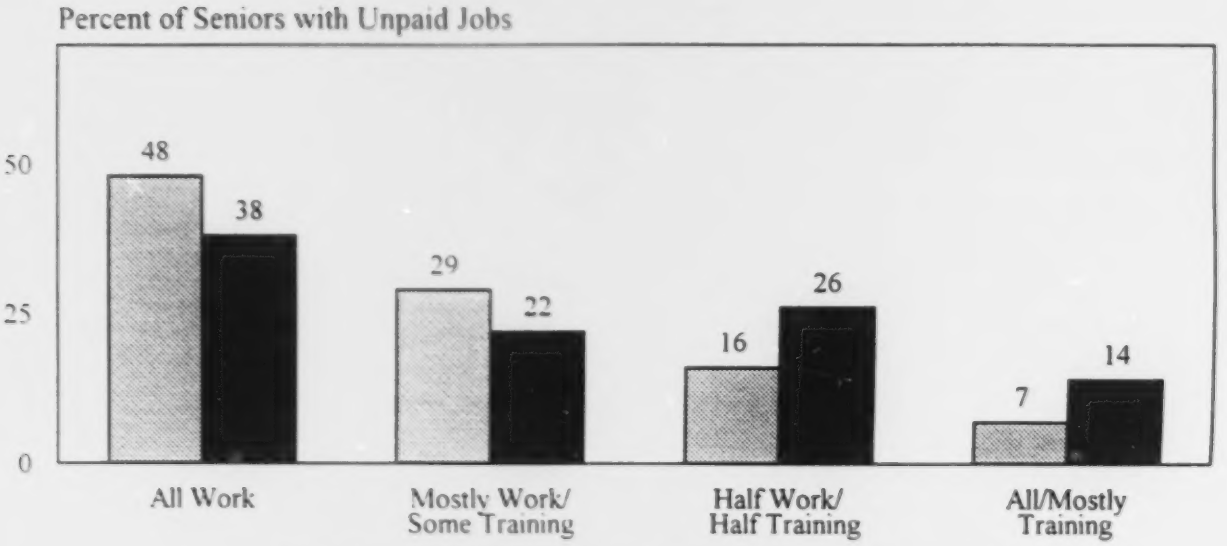
[11]The STWOA suggests that work-based learning activities include "a planned program of job training and work experiences (including training related to pre-employment and employment skills to be mastered at progressively higher levels)."

[12]Students may not always recognize training when it is delivered informally, so relying on their perceptions may imply some underestimation of the extent of training. However, their perceptions provide a useful measure for comparing training in positions obtained through school and independently and estimating changes in the prevalence of training over time.

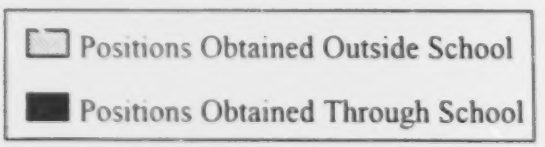
## FIGURE V.4
## AMOUNT OF TRAINING IN WORKPLACE ACTIVITIES




Allocation of Time in Paid Positions Held in Grades 9-12




Allocation of Time in Unpaid Positions Held in Grades 9-12




SOURCE: 1996 survey of 12th graders conducted by Mathematica Policy Research, Inc.

Opportunities students get through school involve more training than the positions students find independently (Figure V.4). About 31 percent of the students obtaining paid jobs through school indicated that at least half of their time at the workplace was spent receiving training, compared with only 13 percent of those who found a job on their own. A similar difference was found for unpaid positions; approximately 40 percent of students who had found an unpaid or volunteer job through school said that they spent at least half of their time in training, compared with 23 percent of students who found their own unpaid positions.

The case study site visits suggest that employers' customary training practices for new employees often affect students' worksite training. Firms that traditionally focus their training for new workers on a single narrowly defined job usually apply this same approach with students. For example, a bank working with the South Central Ohio STW partnership trains students in the same way that most entry-level tellers are trained; students were assigned for two weeks to an experienced teller for coaching. Sometimes, of course, employers' customary training for new employees is more extensive or formal. At a welding and machining company in southern Ohio, students (like any new employees) are given an orientation by the human resource director and safety officer; they then go to the company's training center to learn about quality control techniques and production procedures in each of the company's departments.

Training is more extensive when employers collaborate in the design of the STW initiative and are focusing on the preparation of students rather than on training new employees. This was particularly true among partnerships, such as one

**Youth Apprenticeships Provide Intensive Worksite Training**

The direct grantee partnership in Omaha, Nebraska, sponsors a theater technology apprenticeship program in a community playhouse. The 15 students currently participating spend at least two hours a day at the playhouse. In the first hour, they attend a class taught by the theater technology teacher from one of the participating high schools. In the second hour, theater staff supervise students in designing sets for the playhouse's productions. To become registered apprentices, students must score at least 80 percent on a series of competency tests. Before graduating from high school, they can begin to accumulate the 4,500 hours of supervised work required to become a licensed theater technician. After they receive a license, students receive 12 hours of college credit toward an associate degree and job placement assistance.

in Omaha, that embrace the youth apprenticeship model, which explicitly calls for more structured training linked to students' school curricula.

**Training Is More Structured in Positions Obtained Through School.** One way to ensure that training follows a predefined plan is to create special training sessions conducted apart from the production environment. Training can be scheduled in advance, and trainers can plan their agenda. Such structured group training can involve students only or a mix of students and other new employees. When students are trained in a group by themselves, employer staff can more easily tailor instruction to their needs, and school staff can more readily learn about the content and focus of the training. Some employers prefer this approach because it raises fewer concerns about safety and worker displacement then does training in a production setting. When students' entire workplace experience is confined to this kind of structured training, however, they may have less opportunity to perform real work and interact with adult employees.

Training sessions distinct from the production setting are more common in jobs obtained through school than in those students find independently. Among students who had obtained paid jobs through school and received any training, about 25 percent said their training had been in a special classroom or workshop at the workplace or another location. The comparable figure for students who had obtained paid jobs independently and received any training was 13 percent. The difference is even greater for unpaid workplace activities. Of those students who had found unpaid internships or other positions involving any training through a school program, 34 percent received their training in a separate structured setting, compared with 4 percent among those who found their positions on their own.

### 3. Links Between School and Worksite Learning Are Common but Seldom Robust

STW proponents argue that school- and work-based learning should reinforce each other. When students learn something in one setting, they should have an opportunity to apply the skill or reflect on the content in the other setting. By linking school and worksite activities, partnerships can provide concrete

opportunities to strengthen skills and deepen students' appreciation of the relationship between education and work.

Most partnerships rely on school staff to make this integration happen. School staff members usually are responsible for assigning students to a worksite, preparing them for the worksite experience, and creating opportunities for them to draw on their worksite experiences in the classroom. In the case study site visits, we found two principal ways that schools address these objectives (in addition to the specific skill training students receive in vocational classes). First, the schools offer work-readiness instruction to help students develop appropriate workplace behavior. Second, teachers in academic classes ask students to reflect on their work experience, to reinforce their knowledge of appropriate workplace behavior, the characteristics of careers, or the educational requirements of those careers.

**Work-Readiness Classes Sometimes Are a Link to the Workplace.** Almost three-quarters of all high school seniors in the eight in-depth study states' STW partnerships had participated in a class on how to find a job or behave at a workplace (see Figure III.2). The case study site visits suggest that work-readiness classes are designed to develop skills and awareness in school that students can carry into the workplace. This aim is most obviously served when classes prepare students for a specific workplace activity already planned. In other cases, however, work-readiness instruction is offered across the board to all students in a certain grade, on the assumption that someday they will draw on what they learned. Although these classes can be useful, it is less clear that they create a real integration between classroom and workplace learning.

The student survey suggests that work-readiness classes are almost as available to students in general as they are to students who engage in workplace activities through school. Over 80 percent of students who had ever obtained a paid job through school had also attended a work-readiness class; often, however, the class may not have been explicitly linked in any way to upcoming workplace activity. About 71 percent of all other students--those who had never found workplace opportunities through school--had taken a

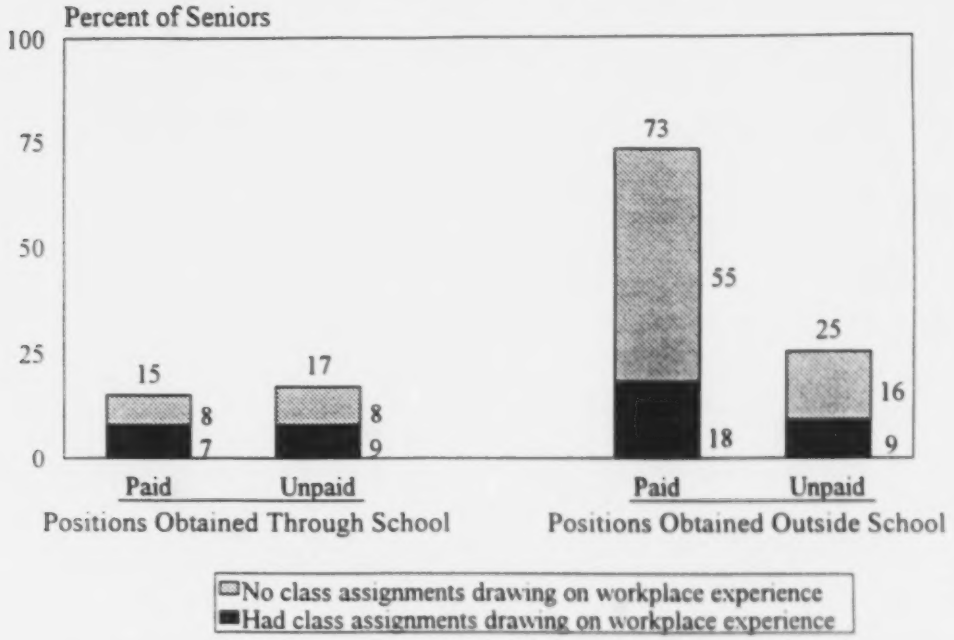
work-readiness class. These data suggest that work-readiness classes sometimes are planned as a real link to a workplace activity, but just as often are planned as a general career development activity.

**Academic Classes Often Take up Workplace Concerns.** Staff in STW partnerships often described assignments that academic teachers give to students that draw on their worksite experiences. Sometimes such assignments are explicitly planned as part of a career-focused program that includes academic and vocational classes, but often they are part of more diffuse efforts to bring "real-world" concerns into the academic curriculum. For example, English teachers sometimes assign essays in which students are asked to describe their job or their volunteer work, assess the career opportunities their employer offers, or reflect on workplace behavioral norms. Such assignments can provide opportunities to distill impressions about career opportunities or appropriate workplace behavior, but they do not necessarily advance students' analytic or technical skills.

A substantial number of students, including many who obtained their own jobs, experience these simple links between school and work (Figure V.5). Students were asked whether, while working at their most recent position, they ever gave a class presentation about their workplace activity, wrote an essay about it, or used what they learned there to complete a class assignment or exam. Among the 15 percent of all students who had obtained paid positions through school, about half said they had made such use of their workplace experience. Similarly, among the 17 percent of all students who had unpaid positions through school, a bit over half found such connections to their classes. Even among students who always found paid or unpaid workplace positions on their own, a smaller but still substantial fraction reported such links (a quarter of those in paid positions and over a third of those in unpaid positions).

These modest means of integrating workplace and school-based learning are common because they are relatively easy to create, but they do not necessarily challenge students. They can be readily implemented because teachers do not need to take into account students' actual jobs. Since nearly all students work at some point in high school, these assignments can be applied generally in the classroom;

FIGURE V.5
WORKPLACE LINKS TO CLASSROOM CONTENT




SOURCE: 1996 survey of 12th graders conducted by Mathematica Policy Research, Inc.

they will exclude few students. Because such assignments are so general, however, they may not take full advantage of the specific learning opportunities available at a worksite or challenge students to think analytically about their experience or the industry in which they are working.

In a few of the partnerships visited in spring 1996, efforts to integrate school- and work-based activities have gone considerably further. In some schools, teachers have worked closely with worksite staff to develop challenging projects that students can complete at the workplace. For example, in the Boston

**Student Projects Can Integrate School and Worksite Learning**

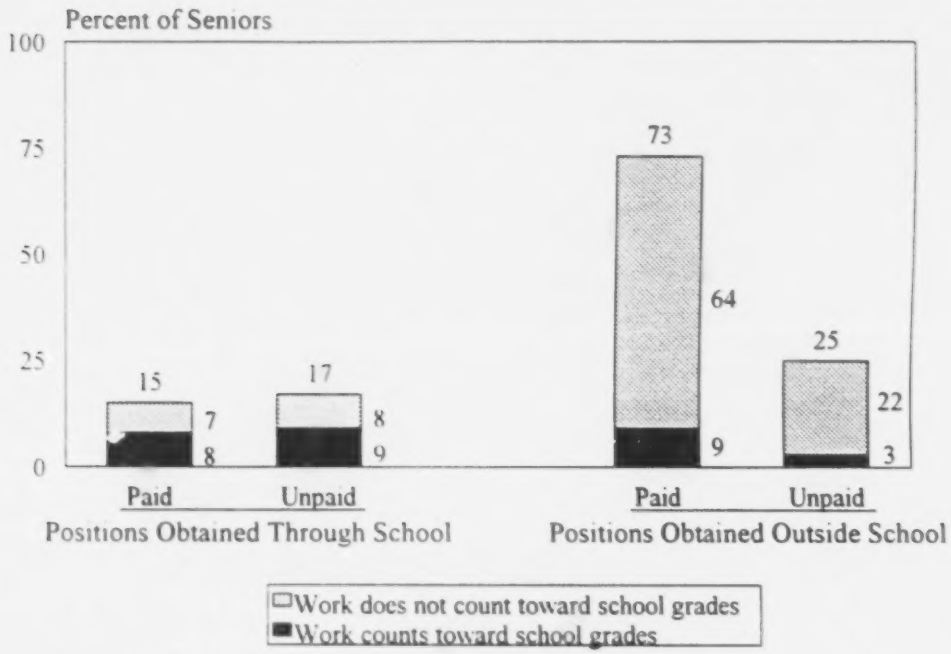
With support from teachers, hospital staff participating in Boston's Protech Health pathway conceived some imaginary patient cases for teams of students to diagnose. Each case included hypothetical information on the patient's background, symptoms, and alternative diagnoses. The teams of students worked with medical staff to determine how each of several departments within the hospital would have handled the case and wrote up their diagnoses. Teachers and worksite supervisors reviewed the students' write-ups, and students made classroom presentations describing their approach and results.

partnership, teachers and employer staff have developed projects to help students prepare for health careers. In another Massachusetts partnership, Worcester teachers and employers developed projects that students completed during six-week summer internships, such as producing a company newsletter and developing a marketing questionnaire for a shoe company.

**4. School-Worksite Communications Are Common but Often Limited in Depth**

To link students' work- and school-based activities, teachers and worksite staff must share information about students' progress. School staff should know what students are learning at the workplace, how they are progressing, and what problems they might be having that could be addressed in the classroom. To reinforce incentives to take their workplace activity seriously, students should be aware that their performance is evaluated in ways that matter to them, such as in their school grades--a normal practice in co-op and youth apprenticeship programs.

FIGURE V.6
WORKPLACE ACTIVITY COUNTS IN SCHOOL GRADES




SOURCE: 1996 survey of 12th graders conducted by Mathematica Policy Research, Inc.

This connection between workplace and school assessment is certainly more common (as it is intended to be) when schools place students in workplace activity (Figure V.6). Over half of the students who found paid or unpaid jobs or internships through school said that their performance at work "counted toward a grade at school". Only about 13 percent of students who independently found workplace activities reported a connection between their workplace performance and school grades (9 percent out of the 73 percent who had paid jobs, and 3 percent out of the 25 percent who had unpaid positions).[13] Important questions still need to be answered about how thoroughly employers critique students' performance and how schools respond to indications of performance problems.

Although staff commonly obtain some information on students' assignments and performance at a worksite, the student survey and the case study site visits suggest that this information is (at this early stage of STW implementation) often limited in scope and depth. Although 58 percent of the students who ever obtained a paid or unpaid position through school said that school staff received an assessment of their worksite performance, only about a quarter of those students said that school and employer staff ever spoke to each other about their performance.[14] In case study sites, we encountered employers who commented that it is often difficult to reach teachers because of differences in their schedules or because teachers did not have ready access to a phone, fax, or computer E-mail. Some programs assign staff, often from an intermediary like a Private Industry Council, to monitor students at worksites, but their role typically does not emphasize passing on information about students' experiences to teachers. These staff members

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[13]A somewhat different issue is whether workplace activity in itself provides the basis for granting of course credit. Where workplace performance is considered in determining school grades, we assume that the workplace experience is part of a credit-bearing course. Sometimes, however, students get school credit for workplace activity (such as community service), even when there is no formal assessment of workplace performance. The survey did not ask about such situations.

[14]Meetings between school staff and employers to discuss students' performance were reported by about one-fifth of the students who obtained paid jobs through school and one-tenth of the students who obtained unpaid jobs through school. Students may not always be aware of communication between their employer and teachers, but if this is so, the communication may be having little effect on their school and worksite experiences.

usually focus on matching students with internships and addressing behavioral or procedural issues raised by employers or students; they rarely have opportunities to discuss students' progress with teachers. Often, teachers are unfamiliar with the jobs to which students are assigned, and this makes it unlikely that they can connect their lesson plans to students' work experience.

Closer integration between workplace activity and classroom learning thus remains an ongoing challenge and a potentially costly one. As efforts continue to expand workplace learning components of STW, the demands on teachers' time, the need for more program staff to monitor workplaces, and the extent of feedback expected from employers are all likely to increase. If workplace activity obtained through STW programs is to retain and strengthen its current qualitative advantage over students' independent activities, these requirements are likely to limit expansion.

### 5. Overall Level of Participation in "Linked Workplace Component"

The wealth of detail from the 1996 student survey reviewed in the preceding sections can be boiled down to a relatively simple measure of the extent of participation in the workplace component of STW systems as envisioned in the STWOA. To construct this measure, we analyzed the student survey to determine how many 1996 seniors in the eight in-depth study states' partnerships (1) ever had an intensive work-based activity (a paid or unpaid job, training position, internship or community service position), *and* (2) completed a classroom assignment using information or skills acquired during that work-based activity, *and* (3) had their performance in that work-based activity count toward a grade at school.[15] About 16 percent of all the high school seniors met all three criteria. In Chapter VI, we combine this estimate with the earlier estimates of participation in career development activities (Chapter III) and participation in

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[15]We did not exclude students who independently found their work-based activity if that activity met conditions 2 and 3. While the STWOA requires partnerships to help students find work-based learning positions, the act does not prohibit partnerships from asking students to try to identify their own position. Moreover, as discussed earlier, some of the positions students obtain on their own are related to their school curricula.

career majors (Chapter IV) to derive an overall measure of participation in all three of these aspects of STW systems.

## VI. ENCOURAGING LARGE-SCALE PARTICIPATION IN DIVERSE ACTIVITIES

The School-to-Work Opportunities Act (STWOA) promotes a comprehensive educational strategy for all youth. Career development, career-focused programs of study, and work-based learning are envisioned as integral and complementary parts of a model that can apply, in some form, to all students as they progress from elementary grades through high school and beyond. Unlike other education programs that have been designed to help specific groups such as disadvantaged youth, the STW legislation stresses giving *all* students an opportunity to participate in the full range of activities it defines.

In this chapter, we address two issues raised by this vision of STW systems as a means of providing a variety of related experiences to all students. First, we examine how the idea that STW systems are for all students is being interpreted at the national, state, and local level. Second, we provide an early measure from the 1996 student survey of the extent to which students are participating in the major STW components described in the preceding three chapters. The findings are:

***Early Findings on Encouraging Participation by All Students***

- ***The national STW office stresses the importance of serving all students, but not necessarily that all students should participate in all STW components.*** The STWOA emphasizes universal access to and broad participation in all STW components. The national STW office and most state leaders, however, do not envision a rigid program model that must be applied to every student.
- ***State and local goals and priorities in the early implementation stage usually concentrate on achieving wide participation in activities that serve career awareness objectives.*** Career majors are a lower priority, and a variety of practical constraints limit current expectations for widespread participation in extended workplace activities.
- ***There is wide participation in some STW components, but so far few students participate in multiple STW activities.*** One important measure of whether STW systems are becoming a reality is whether a substantial and diverse group of students benefits from career development activity, career-focused programs of study, and workplace learning linked to school. At this early stage of STW implementation, almost two-thirds of students participate in career development activity, but only two percent also participate in a career major and extended workplace activity like an internship.

The STWOA was not intended to create a particular program model that engages all students in the same sequence or combination of activities. No statutory language requires all students to participate in every activity defined and encouraged in the legislation. Instead, the law emphasizes universal *access* to STW activities, largely because its authors believed in the broad value of its provisions, but also to guard against conscious or unconscious discriminatory exclusion.

It is also clear, however, that the vision of a STW system will not be realized if the legislation results only in the expansion of a variety of separate programs and activities. The aim of the legislation and its leading proponents in the national School-to-Work office is to make it possible for large numbers of students from diverse backgrounds to have coherently related experiences that help them develop and begin preparing for a career goal. This means that one measure of a STW system's success will be the number of students who gain the benefits of participating in a combination of various STW activities. Over time, the fraction of students who are "multiple-component participants" should grow if STW programs are in fact becoming a STW system.

This first evaluation report should be viewed as an early baseline measure of student participation in particular STW components and of participation in the combination of components. In many of the in-depth study partnerships, participation levels measured in 1996 largely reflected the availability and integration of programs before STW implementation efforts gathered momentum. Case studies and student surveys in later years of the evaluation will chart participation expansion, as state and local implementation strategies run their course more fully. Preceding chapters of this report have provided early estimates of participation levels in particular STW components--career development activities, school-based career majors, and structured workplace activity. In this chapter, we focus on two questions that relate to the goal of making STW work for all students:

- How are the eight case study states and their local partnerships interpreting and acting on the legislative definition of STW as a set of reforms for all students?

- What percentage of students in the case study states can, at this early stage, be identified as participants in the full range of career development, school-based learning, and workplace activities that form a comprehensive STW model?

## A. INVOLVING ALL STUDENTS: ATTITUDES AND PRACTICES

The STWOA's emphasis on both inclusiveness and a comprehensive, coherent set of activities for individual students creates something of a dilemma when it comes to implementation strategies and assessments of success. The more states and local partnerships focus on seeing all students as participants, the more tempting it is to measure implementation success by the *availability* of a variety of experiences for students, and by high levels of participation by individual students in *any* of these activities. From this perspective, the fact that a large percentage of students are involved in job shadowing would be evidence of high participation, even if only a small fraction of them went on to choose a career major and take part in a more intensive workplace internship. On the other hand, states and local partnerships could focus on involving students in a coherent package or sequence of related activities--career development activities that lead to students' selecting a career-focused program of study that includes workplace activity closely linked to the school curriculum. So far, such a focus seems to lead to concentration on one or more specific program models, and to restrict the number of students who could be called participants.

At this early stage of the evaluation, we have observed state and local strategies on promoting participation with regard to two issues. First, we have examined how state and local priorities reflect interest in making STW relevant to students of all interests and ability levels. Second, we have taken stock of how local partnerships are seeking to ensure that special student populations are not excluded from STW activities.

### 1. Early Implementation Efforts Focus on at Least Some Aspect of STW for All Students

Enthusiasm for involving all students in some form of STW activity is widespread among state agencies and local partnerships. State documents--brochures, requests for substate grant proposals,

implementation and evaluation guidelines--almost universally stress the value of the major STW components for students of widely varying abilities and aspirations. Local partnership materials similarly describe the benefits of STW systems for students in general.

**State Promotion of STW in Kentucky Stresses Relevance for All Students**

Kentucky, like other states, has run a public information campaign to promote support for STW reforms. Its brochure *School to Work - Kentucky* includes a broad vision of the importance of STW systems: "School-to-Work is a unique, pragmatic plan designed to reverse this erosion of our workforce capabilities by setting a dramatic and ambitious goal--to provide all American children with the appropriate education and skilled technical training necessary to achieve quality, high-paying employment."

Participation goals at the state and local level, however, reflect the expectation that some aspects of STW will engage more students than others.

- ***Career Development Commonly Viewed as Universal Activity.*** Comprehensive career development is the aspect of the STW model that is most often incorporated into implementation goals with explicit expectations that it will affect all students. Four of the eight case study states now require that schools help all high school students develop a plan linking education and career goals, or will phase in such a requirement over the next several years. In seven of the eight states, strengthening career guidance practices is an explicit state priority.

- ***Workplace Activity Goals More Modest and Flexible.*** Fewer states set goals for broad participation in workplace activity. Where they exist, the goals are more modest and local efforts to meet them tend to favor less intensive forms of activity that mostly serve career awareness objectives. Massachusetts has set a long-term goal of engaging half of all seniors, by the year 2000, in a structured work-based learning experience linked to a school curriculum. In Michigan and Wisconsin, the aim in the next few years is to involve all students in some kind of workplace activity during high school, but efforts to achieve that goal focus on giving students some minimal amount of job shadowing rather than a more in-depth experience. Michigan has established ambitious goals for expanding participation in registered youth apprenticeships almost one hundredfold in the next few years, but these goals still call for involving a relatively small fraction of high school students.

- ***Career Majors Rarely Seen as Universal.*** Across the eight states and their local partnerships, only Oregon and a large school district in one Massachusetts partnership now plan to have all high school students choose a career major. In the Massachusetts case, the options that will be open to students and how they will be made available have not yet been defined. Aside from these two examples, Wisconsin states the most ambitious goal: that one out of three graduates in the year 2000 will have a career major linked to an associate's degree program at the postsecondary level.

The variation in target levels of participation for STW components reflects the fact that early implementation efforts are understandably more often focused on the development of capacity and quality of particular components than on the capacity to involve individual students in a variety of STW activities. For example, efforts to strengthen career development activities and reorient guidance staff can be carried out whether or not structured workplace activities or career majors are on the partnership or school agenda. Guidance counseling is already viewed as applicable to all students, so this component of STW can involve a large proportion of students regardless of the breadth of participation envisioned for other components. In the few places where career majors are seen as the foundation for reorganizing schools, there is no clear vision of all students participating in structured workplace training related to the career major.[1]

As a result, efforts to involve students as "multiple-component STW participants" are so far concentrated in specialized programs that already offer at least a few of the key components. Many of these are organized around the selection of a vocational course sequence. Some of these programs originated before the STW partnership was created and focused on strengthening vocational programs. They are designed to give students broad exposure to the industry, integrate theoretical concepts into vocational classes, or give vocational students more applied instructional approaches in their academic classes. By choosing a vocational class, the students involved in effect choose a career focus; efforts to make at least some

**Ohio Precision Technology Program Offers STW Package**

Students who attend the Lorain County Joint Vocational Services (JVS) Center for grades 11 and 12 could be described as getting a full range of STW activities. Before coming to the JVS, they had career development activities at their home districts: career fairs, career study field trips, and employer speakers. In 12th grade, they take applied math and science classes specifically for students in related occupational programs; students in precision technology and welding programs, for example, are grouped together. Precision technology students take part in a summer work placement at a local metal industry employer, in addition to their hands-on vocational course.

[1]Oregon aims to have all students gain some kind of workplace exposure, which might include brief job shadowing.

academic instruction relevant to that career focus can be seen as elevating their program to a "career major." Opportunities for workplace activities such as co-op jobs and work release programs are traditionally linked at least informally with vocational courses. The precision technology program in one Ohio partnership's joint vocational services center illustrates efforts to build academic curricula and workplace activity around a vocational course in this manner.

The number of students who participate in comprehensive STW programs is so far constrained by this focus on vocational programs, and by the fact that these early STW programs have often been designed to be selective. For example, youth apprenticeship programs typically begin their efforts with commitments from employer partners to host a limited number of students in internships or worksite training positions. In most cases employers want to exercise the same discretion they have when they are hiring regular employees; before they invest time and money, they want to ensure that they get capable, motivated students to work with. Such programs thus usually have entrance criteria and screening; students whose grades or attendance fall short, or who do not appear generally motivated or interested enough in the employer's industry, are often screened out. A worksite program in Kentucky with United Parcel Service that offered paid jobs and college-level courses for about 25 students is an example.

**UPS Offers Jobs and Courses to Selected Students**

In the local partnership centered in Louisville, Kentucky, United Parcel Service developed a pilot project offering jobs and college courses to students planning on attending two-year or four-year colleges. Eleventh and twelfth grade applicants were screened on the basis of grade point average, and went through the standard UPS hiring process. Those selected got regular entry-level jobs, and could take a community college introductory business course at the UPS site at no cost and earn three college credits.

**2. Inclusion of Special Populations Addressed by Organizational and Funding Decisions**

The goal of large-scale participation is linked explicitly in the STWOA to the aim of ensuring that youth who face particular barriers to successful careers are not excluded from the school-based and work-

based opportunities that STW partnerships are developing. Case study site visits identified four approaches that some states and local partnerships have taken to protect a place in STW systems for special populations, including students with disabilities, at-risk and out-of-school youth, and students in special education:

- ***Representation in Governance.*** At least five of the eight case study states have included representatives of state agency units, outside professional groups, or voluntary organizations serving special populations groups in their state-level STW governance boards or committees.

- ***Targeting Resources.*** Some efforts have been made to provide state resources for including special populations in STW activities, or to ensure that local partnerships do so. Kentucky has developed a manual to help local partnerships design strategies for promoting access to STW for students with disabilities, and offers technical assistance on this issue. In Ohio's competitions for substate grants, extra points were given to partnerships that had specific plans for helping underserved populations. Oregon is using JTPA "8%" funds for special efforts to include at-risk youth in STW activities. Wisconsin's "special populations transition action team" developed a manual for local partnerships on strategies for inclusion and resources to support them.

- ***Joint Activities.*** An obvious and simple strategy is to ensure that STW-related activities for students and staff are carried out whenever possible in ways that include both the general population and special groups. In Boston, for example, the school district's long-standing program for students with disabilities has become part of its new STW office. The local partnership has established ties with an alliance of alternative education providers, whose program participants join with students from regular high schools in job shadowing activities.

- ***Identification of Special Populations as Priority.*** In a few cases, plans for early use of STW funds focus primarily on programs that serve special populations. This was most evident in Dade County, Florida, where the earliest use of STW implementation funds was for cataloging the programs available to students in the district's 13 designated "Stay-in-School" sites. These programs focus on lowering dropout rates among targeted groups of students and on expanding their participation in workplace activities.

Site visits also identified a few partnerships where efforts to reshape or strengthen long-standing local programs serving special populations were part of the early STW implementation agenda. For the most part, these efforts focus on creating or improving workplace activities. Some instances involved programs for students with disabilities, as at the Lutz School in suburban Detroit. In other cases, the focus is on at-

risk students. For example, the workplace internships at a Chrysler plant in Macomb County, Michigan, described in Chapter V were initiated as a component of a local alternative high school for returning dropouts and at-risk students. Similarly, the "Career Academics Program" at Taft High School in Cincinnati is a targeted effort to provide at-risk students with internships and mentors. In most cases, the programs for special population groups that are identified by local partnerships as part of their STW strategy are continuations of earlier initiatives.

STW directors in two states identified concerns that can affect the coherence of strategies to make STW systems serve the needs of special population groups. One state director explained that the number and diversity of alternative education providers throughout his state, and their independence as community-based nonprofit organizations, can make it difficult to identify the appropriate leaders at the state level to join with to form broad strategy. In one major city, however, 12 community-based organizations that provide alternative education to at-risk youth have formed an alliance to share ideas and strategies for securing resources. This alliance may make it possible to plan more systematically and strengthen STW-related services to this population at the local level.

**Heightened Attention to STW Transition for Students with Disabilities**

At the Robert Lutz School, operated by the Macomb Intermediate School District in Michigan, increasing emphasis is being placed on early exposure to work experience for students with a range of cognitive impairments. This effort is prompted in part by a new state law that will require public support for such students' education only to age 21, rather than 26 as under current law. With support from a STW partnership mini-grant, the school is creating opportunities for students to engage in job shadowing for one to six weeks. Students will begin getting workplace experience at an earlier age than students have in the past, and--it is hoped--thus be better equipped to take advantage of sustained job training and regular employment by age 21.

Another state director pointed out that establishing special population groups as a priority target for STW implementation efforts can contribute to persistent misperceptions of the STW movement's aims. Some state staff pointed out that, at least in the earliest stages of defining and promoting STW systems, it is wise to avoid fostering the impression that STW systems are collections of programs specially

designed for certain groups of students such as those with low academic achievement, disadvantaged youth, students with disabilities, single parents, or dropouts. If early uses of STW funds focus too heavily on programs for these target groups, the message that STW systems are relevant for all students may be harder to convey convincingly.

## B. CURRENT LEVEL OF MULTIPLE-COMPONENT PARTICIPATION

The student survey component of the evaluation provides a basis for judging the development of STW systems with regard to the pervasiveness of student participation. Comparisons of survey data for students in the classes of 1996, 1998, and 2000, coupled eventually with data from the students' high school transcripts, will answer three important questions about system pervasiveness:

- Does participation in particular STW activities increase? Which activities involve more students over time?
- How many students participate in a variety of STW activities? How does this rate of participation grow over time?
- Which subgroups of students participate most? In which activities do particular subgroups participate most, and which subgroups are most likely to participate in a combination of STW activities?[2]

Student surveys, although inevitably imprecise in some respects, provide a rich basis for estimating participation rates and growth. Survey questions query students about the nature of their experiences as they perceived and recall them, rather than about specific programs, events, or classes with names that vary widely from place to place even when they are roughly equivalent in design and content. Student surveys may also indicate participation levels quite different from what would be reported by partnership personnel.

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[2]Analysis of subgroup participation will be performed later in the evaluation when student transcripts become available.

However, as long as this imprecision applies comparably to successive cohorts, changes in survey findings from cohort to cohort will be a useful indicator of the progress of STW implementation.[3]

The student surveys have the advantage of focusing on numerous specific aspects of STW participation. For example, as reported in Chapter III, the survey provides estimates of the extent to which students, at any time during high school, took part in various activities arranged by schools for career development purposes. Similarly, as reported in Chapter IV on school-based learning, the survey indicates whether students were asked to select a career focus for their studies, and if they took classes for students with similar career interests that involved assignments related to their career area. These data from Chapter IV were combined into a measure of whether students have in effect chosen a "career major." In Chapter V, survey data were used to estimate the frequency with which students had engaged in sustained workplace activities that were marked, at least in their minds, by the kinds of linkages to school classes envisioned by STW proponents. The survey data for the first 12th grade survey cohort in the eight in-depth study states can thus provide a systematic measure (Figure VI.1) of (1) the relative prevalence of participation in each of these three STW components as of school year 1995-96, and (2) the extent, at this early implementation stage, of students' involvement in all three components.[4]

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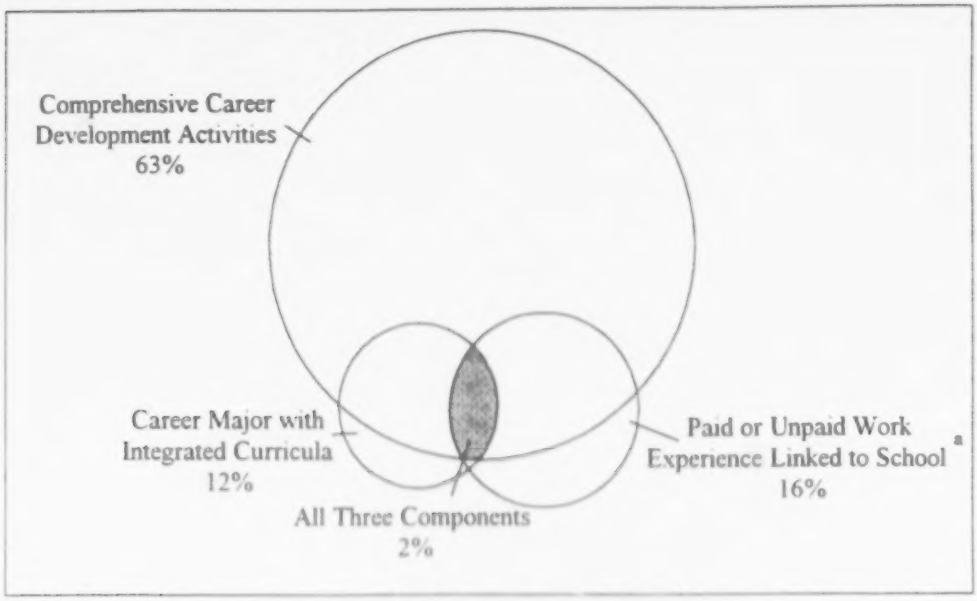
[3]Staff reports--an alternative source of participation measures--can also be misleading, erring in two possible directions. They might focus only on the latest initiative that is touted as "STW," overlooking preexisting opportunities for students that may offer similar experiences. Alternatively, they might count (and even double count) all reported participation in programs, events, and classes they helped organize, even if they represented only minimal movements toward STW objectives.

[4]Since the survey asks multiple questions pertaining to participation in each of the STW components, it is possible to construct a variety of participation indicators, by selecting or omitting particular survey items. In the process, judgments are required, based on item response rates, students' apparent understanding of particular questions, and how central each item is to the participation concept of greatest interest. The findings reported here are based on one particular set of constructed participation measures, selected after considerable analysis of other possible indices.

FIGURE VI.1
STUDENT INVOLVEMENT IN KEY STW COMPONENTS


Comprehensive Career Development Activities 63%
Career Major with Integrated Curricula 12%
Paid or Unpaid Work Experience Linked to School [a] 16%
All Three Components 2%

SOURCE: 1996 survey of 12th graders conducted by Mathematica Policy Research, Inc.

[a] Work experience is "linked" to school if workplace performance counts towards school grades and class assignments draw on the workplace experience.

### 1. Participation Greatest in Career Development Activities

The first student survey of 12th graders confirms the observation from case study site visits that career development is the most widely available component of a STW system. Students were considered to be participants in a comprehensive career development program if they reported having participated during high school in four of the five activities that are commonly named by schools as part of their career development program: (1) talking to a teacher or counselor about career plans; (2) completing a career interest inventory; (3) attending at least one presentation by an employer at school; (4) participating in a job readiness class; and (5) participating at least once in a worksite tour or job shadowing experience. By this criterion, the 1996 survey showed that 63 percent of all 12th graders in STW partnerships in the eight in-depth study states participated in comprehensive career development.

Intensive workplace activity linked to school programs has been a less common early priority for large-scale implementation, and the survey data confirm this site visit observation. As reported in Chapter V, substantial proportions of students at some time during high school had held paid jobs or training (88 percent) or unpaid internships or community service positions (42 percent). However, only a fraction of these students reported that their most recent paid or unpaid position (obtained through school or not), involved linkages between workplace activity and school classes as defined in chapter V. About 16 percent of all 12th graders in the 1996 cohort were thus judged to have participated in a workplace activity that substantially meets the criteria embodied in the STWOA's ideal concept of work-based learning.[5] This finding is not surprising at this early stage of implementation; state agencies and local partnership staff have reported on the difficulty, not only of finding workplace positions for students, but of building effective ways to link these experiences to school curricula. These linkages have been one of the major challenges facing local partnerships.

Career majors appear, based on the survey data as well as the case study site visits, to be the least commonly experienced component of the STW model in the early stages of STW implementation efforts. The 12th-grade survey asked students if they had ever made a career choice in response to a request from their school to "select a career major or career area to plan for." About 43 percent of students said they had done so--an estimate which, based on information gathered in site visits, we believe includes many students who were simply asked to indicate what career they might be interested in for the future. However, only some of these students ever took part in a "career cluster class"--an English, math, or science class designed specifically for students in their career major or area--and reported having

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[5]Even this estimate is likely to include workplace activities with limited integration of school-based and workplace learning. For example, students might have been simply asked to write an essay or keep a diary about their workplace experience; that linkage would satisfy the criterion for a "content link" to workplace activity. Similarly, students with co-op jobs who must periodically get their employers to fill out a form assessing their worksite performance, even if this process is perfunctory, would be included as satisfying the criterion for an "assessment link" between school and workplace

assignments in any of these classes that related to their career interests. This fairly loose definition of a career major participant would encompass about 12 percent of 1996 seniors in the in-depth study states. This finding is consistent with the impression gained in the case study site visits that so far relatively few students choose a clearly defined career major.

**2. Participation in Full Set of STW Components is Rare in Early Implementation Stage**

At this early stage of STW implementation efforts, it would be unrealistic to expect that all aspects of emerging STW systems would develop at the same pace. A variety of factors constrain the level of student participation we would expect to observe in the full array of career development, school-based learning, and workplace activities envisioned as parts of the STW model. First, states have typically set priorities on certain system components, and have not yet made vigorous efforts to promote expansion of all the components. Second, there are inherent difficulties in expanding these components. These difficulties, discussed in earlier chapters, particularly limit the number of students who select career majors or participate in intensive workplace activities linked to their school program. Third, most expansion efforts are focusing so far on building the capacity to deliver each component separately. Only in small, targeted, and usually selective programs are local partnerships truly combining a variety of STW experiences for particular students.

The student survey results confirm that very few students in the baseline 1996 cohort of seniors could be described as having engaged in all three STW components (Figure VI.1). About two percent of all 12th graders in the in-depth study states' STW partnership schools in school year 1995-96 met the defined criteria for participation in comprehensive career development activities, studies focused on a selected career area, and intensive workplace activity linked to their school program.

This estimate is, of course, dependent on the particular analytical definitions we use for measuring participation in each of the STW components. Reasonable alternatives, however, do not dramatically change the judgment that there were few "multiple-component participants" in STW activities in spring

1996. For example, one alternative would be to consider students as involved in career majors if they had chosen a career focus at some point in high school and had at least some assignments in academic classes that drew on workplace skills, even if they never took an academic class that clustered students with the same career focus (see chapter IV). Although that relaxed criterion would increase the estimate of participation in career majors, it would only increase the percentage of the sample considered "multiple-component participants" from two to four percent.



17.

## VII. MAKING LOCAL PARTNERSHIPS WORK

A central premise of the School-to-Work Opportunities Act (STWOA) is that cooperation among the local institutions and groups concerned about education and employment will help students prepare for future careers. It is assumed that most students need education or training beyond high school, and that cooperation between high schools and postsecondary institutions will increase the number who get it. Ties between employers and schools are seen as promoting opportunities for career exploration and workplace learning. Other organizations such as labor unions are also considered essential partners.

The long-term significance of local partnerships as defined in the STWOA is just beginning to unfold. Based on the first evaluation site visits in the in-depth study states, the following findings were reached about the role of partnerships in the early stages of STW implementation:

***Early Findings on Local Partnerships***

- ***Public schools and employers play more active roles than postsecondary institutions in local partnerships.*** Several of the in-depth study states are promoting postsecondary enrollment through new policies on articulation, but early implementation efforts at the local level are focused in the relationship between schools and employers.
- ***Many employers are active partners and sometimes key partnership leaders, but recruiting enough to fulfill ambitions for workplace activities remains a difficult challenge.*** Some states and local partnerships are using incentives and management tools such as areawide employer databases to ease the burden on employers, but prospects for sustained large-scale participation by employers remain uncertain.
- ***Organized labor and parent groups so far play a relatively minor role in STW implementation.*** Some union partners voice continued concern about worker displacement, and question state and employer commitment to having labor as an equal partner. Organized parental involvement is rare; individual parents are often very supportive, but occasionally are vociferous opponents of the STW concept.
- ***For now, an emphasis on creating intrapartnership consistency is uncommon.*** The long-term importance of local partnerships beyond federal funding will likely depend on their ability to promote a common philosophy, goals, and practices, and to demonstrate that they add substantially to what local districts and schools can accomplish in their own more localized work with employers.

STW partnerships are potentially important because members' cooperative efforts can:

- Help communicate employers' needs to educators
- Assist schools in developing curricula that meet those needs
- Create opportunities for students to engage in workplace activities that complement and reinforce what they learn in school
- Encourage students to pursue postsecondary education or training and make those options more readily available
- Assure broad community involvement in efforts to improve education

This chapter examines the progress that local partnerships are making in creating or strengthening institutional relationships to promote these objectives. Discussion focuses on four broad issues:

1. What kinds of links are being forged between public school systems and postsecondary institutions, and what factors are affecting their development?
2. How is the linking of employers and educators in STW partnerships progressing, and what circumstances promote or impede the development of their collaboration?
3. How significant a role are others, such as unions and parents, playing in local partnerships?
4. In the early stages of development observed in 1996, how important are local partnerships as a vehicle for defining and leading change?

## A. LINKING SCHOOL DISTRICTS AND POSTSECONDARY INSTITUTIONS

Public school systems have long had ties to postsecondary institutions, but in many places these ties have traditionally served students headed for four-year colleges. Counselors have often focused their advice about postsecondary education on entrance requirements and four-year college offerings (see Chapter III). They have traditionally communicated with college admissions offices, and provided students with information about how to obtain financial aid, but spent less time helping students make career choices. Counselors' help in selecting high school courses has typically focused on how to maximize students' chances for admission to state and private four-year universities and colleges.

This traditional focus has underserved students in several ways. Students interested in going to four-year institutions may have gotten help to meet entrance requirements, but perhaps they would have been better prepared to choose courses and a major once they get to college if they had had access to career guidance activities while in high school. Without a strong guidance focus on careers that students can enter through postsecondary paths other than a four-year college, there has often been less emphasis on the academic preparation that students need to enter and succeed in community colleges and technical institutes. Students who might not immediately enter four-year institutions, or even two-year institutions, now need strong academic content to succeed. Jobs are more complex, requiring academic skills at both entry and more advanced levels. Most students need to be encouraged to see high school as just one step in their preparation for a career, preparation that will probably have to include attending a four-year institution, a community college, a technical institute, or pursuing an apprenticeship.

The STWOA recognizes the importance of helping students pursue postsecondary education and increasing the number of students who do so. Its strategy for doing so includes three main features: (1) programs of study that prepare students for postsecondary education/training and include a postsecondary component; (2) procedures to facilitate students' entry into postsecondary education or training; and (3) assistance to help graduates continue their education or training.

Actually creating these links, however, depends on state leadership and close partnerships at the local level between school districts and postsecondary institutions. Site visits to partnerships revealed (1) specific steps that are being taken at the state level to promote students' continuation to postsecondary education and training; (2) some indications that postsecondary institutions are, at least for now, playing a less active role in STW partnerships than local education agencies or employers.

### 1. Some States' Policies Promote Transition to Postsecondary Programs

There are generally two approaches that states use to promote students' progression to postsecondary institutions. Well before passage of the STWOA, many states established policies on articulation between

high school and college programs, although the extent to which students actually take advantage of articulation is often limited. A few states also developed policies promoting dual enrollment. More recently, some states have begun to address other constraints on postsecondary enrollment with new policies that can help students move from community college to four-year institutions or link high school standards to postsecondary admissions criteria.

**Articulation.** Articulation of high school and community college courses is a long-standing effort, which gained momentum as part of Tech-Prep reforms. Articulation has promoted not only alignment of high school and community college courses, and chances to earn college credit in high school, but in some cases encouraged greater ongoing communication between secondary and postsecondary faculty.

In many places, however, students rarely take advantage of articulation. Secondary and postsecondary representatives in the STW partnerships we visited, as well as Tech-Prep consortia, acknowledge that despite efforts to strengthen articulation, the number of students that enroll in articulated programs at the postsecondary level and receive credit for work completed in high school is very small.[1] For example, a dean from one of the postsecondary institutions in Wisconsin explained that while a process for linking high school courses with community college classes had been established at the system's main campus 30 miles away, the satellite campus had no mechanism in place to encourage new students (or even inform them about the option) to apply for credits for the classes.

The problem appears to be a lack of effective promotion, rather than a scarcity of written articulation agreements. Most of the partnerships included in the site visits have articulation agreements with at least one postsecondary institution. However, students often seem confused about articulation and how it can be useful. Some students who could get advanced credit decline to do so, choosing instead to repeat courses, either to lighten their study load or to strengthen their grasp of basic material.

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[1]The limited use of articulation opportunities was found in visits conducted to 10 Tech-Prep consortia as part of in-depth studies for the national evaluation of Tech-Prep (Hershey, Silverberg, and Owens, 1995).

Although no clear evidence is available on their effectiveness, four approaches to overcoming these problems were identified in case study partnerships:

- ***College-Based Internships for High School Students.*** In one Maryland site, internships for high school students, established before the creation of the STW partnership, are a bridge to later workplace opportunities when the students enter college. Students in the environmental technology program intern at a local waste treatment plant while they are in high school. The internships are an incentive to continue to the articulated environmental technology program at the community college, which includes a high-wage job at the plant.

- ***High School Articulation Coordinator to Promote Teacher and Student Awareness.*** Even before the creation of another Maryland partnership, Tech-Prep articulation agreements were developed between all secondary schools in the five partnership districts and the area's community college. To encourage high school graduates to continue their education, each high school has a Tech-Prep articulation coordinator who contacts relevant high school instructors to ensure that students know about articulated programs and courses and eligibility requirements for receiving articulated credit. For each articulated program, the appropriate instructor reviews the provisions of the agreement with the students and determines which students wish to receive articulated credit and what they must do to receive it.

- ***College Assessment Instruments for Use by High School Teachers.*** A community college in rural Wisconsin established articulation agreements with over 30 small districts spread over a large area. Most of the schools are small and can offer only some of the specific articulated courses. To address this problem, the technical college created an outline of competencies required for students to prepare for or "place out" of the college-level articulated courses, competencies they might acquire across several different courses or other experiences. High school teachers can use these competency outlines to assess and document their students' readiness for technical college courses even if their school does not have the specific, relevant course that would be formally articulated to a college program.

- ***Accelerated Access to College Co-Op Positions.*** To strengthen enrollment in its automotive design program, Macomb Community College near Detroit offers some students an accelerated chance to enter the program. They can take intensive coursework in the summer after high school, and then enter paid co-op positions in automotive design firms in the fall semester, ahead of

**"Threshold Program" Promotes College and a Career**

In suburban Detroit, General Motors, Macomb Community College, about 50 design firms, and several school districts collaborate in "Project Design" to increase standards and enrollment in programs at the high school and college level that lead to automotive design and technical illustration degrees. College instructors offer regular workshops for middle school and high school teachers to upgrade curriculum. Instructors meet with member firms to ensure that curriculum meets their latest needs, and to place students who have reached the college level in co-op positions. The "Threshold" component of the program focuses on attracting disadvantaged students to the field by offering an early start on college courses and quick access to paid co-op positions.

the usual program schedule. This "Threshold Program" is particularly designed to encourage enrollment of disadvantaged students whose pursuit of a college degree depends on rapidly establishing a source of continued earnings.

**Dual Enrollment**. Some states have established policies to allow high school students to take college courses and receive both college and high school credit for them. In Massachusetts, for example, high school seniors can take a limited number of courses at any comm... ...ity college and receive credit at both institutions. Students can use the college credits toward a degree at any of the state's community college campuses. Wisconsin has just recently implemented a dual enrollment policy, under which students can enroll in the state's technical college system and receive credit toward both high school graduation and a postsecondary degree.

Dual enrollment arrangements, however, are unlikely to significantly influence postsecondary enrollment for large numbers of students. These options are generally used by the relatively few students who exhaust their high school's offerings in a subject area. Moreover, some school administrators have reservations about dual enrollment, for two reasons that they identified during site visits. In some states, such as Michigan, state law requires local school districts to pay college course tuition costs for their students. In addition, as two school superintendents from Massachusetts and Kentucky partnerships indicated, encouraging the brightest high school students to take college courses can undermine the pressure and constituency for developing demanding, advanced courses at the high school level.

**New State Policies to Promote Postsecondary Enrollment**. As beneficial as they might be, these linkages between high schools and community colleges do not address two problems that can discourage postsecondary enrollment. First, some students and parents are concerned that attending a community college may be a less certain path to a four-year degree than going directly to a four-year institution. For example, in Maryland four-year institutions were not readily accepting students' credits from two-year schools. School administrators feared that, knowing this, students would be discouraged from enrolling in community college programs as a first step towards a baccalaureate degree. An agreement has been

worked out at the state level to smooth the transition between the two types of institutions, although the perception among Maryland parents and students that two-year schools do not automatically open doors to four-year schools might linger.

At least for public education, Massachusetts is addressing this problem through a joint admissions agreement between the state's community college system and the selected University of Massachusetts. Under this agreement, students will be able to express an interest in a particular University of Massachusetts campus program at the time they apply to a community college. When students are admitted to the community college, they are also conditionally admitted as third-year students to the selected University of Massachusetts campus; to enroll there later as a junior, they must complete a required core of courses at the community college and maintain a specified grade point average. This agreement facilitates the transfer process and underscores the fact that attending a community college does not preclude completing a four-year degree.

A second problem is an emerging divergence between how high schools assess performance and how postsecondary institutions make admissions decisions. Many high schools are moving forward with implementing performance-based student assessments, while most community colleges and four-year schools still rely exclusively on traditional measures such as grades and test scores for admission. In the absence of change in admissions policies at the postsecondary level, continued shifts to alternative assessment practices at the secondary level could exacerbate this difference, making it more difficult, rather than easier, for students to gain college admittance.

In Oregon, state educators have begun to address this problem. They are aligning the way community colleges and four-year state institutions assess applicants with the way students' performance will be evaluated in high school. Students interested in attending any of the state's 17 community colleges will complete the Program Entry Proficiencies (PREP) assessment when they apply for degree programs. Admission officers at the state's eight four-year colleges and universities will use the Proficiency-Based

Admission Standards (PASS) test to evaluate students for admission. The content and performance-based tasks included in these tests will be directly linked to the assessment activities completed by all high school students who participate in career majors. (The specification of proficiencies to be included in the assessments was expected to be completed in 1996.) When the PREP and PASS procedures are fully in place, students who complete a Certificate of Advanced Mastery in high school will already have completed important parts of the postsecondary application materials.

**2. Postsecondary Institutions Participate in STW Partnerships, but Rarely in Leading Roles**

Postsecondary institutions are typically listed as members of local partnerships, but so far they rarely play a central role in leading and coordinating the definition and implementation of STW initiatives. Only about six of the 33 substate partnerships in the eight in-depth study states designate a postsecondary institution as the "lead" coordinator of implementation efforts or the fiscal agent.[2] In most instances these roles are filled by a local or intermediate school district or, in a few instances, by a private industry council or other third-party intermediary such as a chamber of commerce.

College and school partners most often describe the major STW contribution of postsecondary institutions in terms of their work on extending or establishing articulation of high school and college career technical programs. In many of the case study partnerships, articulation efforts begun under the aegis of a Tech-Prep consortium are continuing. In a few cases, the dialogue between secondary and postsecondary faculty over aligning curricula is just beginning. In most cases, however, articulation agreements are already in place, and current efforts focus on extending articulation to include additional programs and faculty, and maintaining and updating agreements for other programs.

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[2]The first local partnership survey, conducted for the first time in fall 1996, will provide data on the frequency of postsecondary leadership among all local partnerships in the 27 states that received implementation grants before fall 1996.

In the few instances where a postsecondary institution takes an active leadership role, it is generally where the STW partnership is an outgrowth of a preexisting Tech-Prep consortium. For example, Macomb Community College in Michigan coordinates efforts funded by STW as well as Tech-Prep grants. Chemeketa Community College in Oregon, St. Johns River Community College in Florida, and Shawnee State University in Ohio coordinate the efforts of STW partnership members who, for the most part, make up a comparably defined Tech-Prep consortium led by the respective colleges. In Maryland's Upper Shore partnership, the STW and Tech-Prep steering committees are the same. Southwest Wisconsin Technical College now serves as STW coordinator, and has developed Tech-Prep articulation agreements with over 20 school districts.

In general, however, early activities of STW partnerships involve mostly public schools and employers. These efforts focus primarily on changing school-based activity and creating workplace learning opportunities for high school students. This concentration of activity, and the relegation of postsecondary institutions to a less prominent role, seem to have, in varying degrees across sites, the following roots:

- ***Concepts of STW Focus on High Schools.*** The Tech-Prep model was conceived primarily as a way to link high school technical programs to career programs at community colleges, so it was natural for community colleges to serve as a "hub" for the cooperative efforts of the high schools in their district. In contrast, links between secondary and postsecondary programs figure less prominently in the way many people think about STW; sometimes once articulation is formally established, secondary and postsecondary partners are unsure of what direction they should turn their joint attention to. Much greater emphasis is thus placed on changing high school programs and linking them to workplace activities.

- ***Leading Roles for Vocational Educators Dampen Postsecondary Interest.*** Vocational schools, administrators, and teachers are often the most experienced parties in local partnerships at collaborating with employers, and are often seen as the natural leaders in developing and implementing STW activities. For example, the staff assigned leading STW roles in Florida partnerships and in Ohio's early STW demonstration projects typically come from vocational education, and the same is true of many local partnerships in other states. This practice, despite its clear advantages, can undercut efforts to convey a message that STW reforms are relevant to all students, and make STW seem irrelevant to administrators of academic programs at some postsecondary institutions.

- *Use of Local Grants Favors Schools.* To the extent that local partnerships distribute substate grants further to their members, it is most often on the basis of requests for "mini-grants" from individual districts or schools, or in some cases from multidistrict consortia within the partnership. In one Wisconsin partnership, a technical college's relationships with local high schools have been strained because college leaders believe distribution of grant funds favors the schools over the college. One community college in a Kentucky partnership declined a share of the STW grant out of concern over the way the partnership was administering and distributing funds.

- *Differences Between STW and Tech-Prep "Boundaries" Can Strain College Resources.* Only a few states have explicitly sought to define STW partnerships so they include the same members as the relevant Tech-Prep consortium. In some cases, community colleges that were at the center of a Tech-Prep consortium find themselves named as partners in multiple STW partnerships, or as members of a STW partnership with a much broader scope. Both situations can strain the ability of college staff to play an active role in STW, particularly if no STW funds are provided to support their involvement.

An important long-term role for universities in STW systems could involve changing how teachers are prepared. Partnership leaders often comment that getting teachers more attuned to career demands, more adept at applied approaches to instruction, and more comfortable with integrating theoretical and technical curriculum will require new ways of training teachers. The University of Massachusetts is beginning to get involved in this process by running sessions on curriculum integration and project-based instruction for teachers at state STW conferences. Teachers can earn points towards recertification by attending the sessions.

## B. LINKS BETWEEN SCHOOLS AND EMPLOYERS

Creating central roles for employers in STW systems is an almost universal goal at the state and local level. The STWOA does not particularly single out employers as having a distinctively influential role, but in practice a strong role for employers has emerged as a preeminent concern. This development reflects several factors. First, in some states there is strong interest in making STW systems part of broader strategies for workforce development, and employers are generally given key roles in this policy arena by governors. Second, employer complaints about the work readiness of today's graduates have increased pressure inside and outside the employer community to make an active contribution in shaping education

and helping make students aware of careers rather than offering only criticisms. Third, educators' frustrations over the difficulties of changing their own institutions sometimes lead them to welcome what they perceive as the decisiveness, alacrity, and fact-based nature of business practices. Finally, the simple fact that in many places collaborating with employers is a new challenge focuses attention on how to address it.

The idea of partnerships between employers and schools clearly did not begin with the STWOA. Many high school vocational programs have long had local employer advisory committees for counseling on curriculum and equipment. At the postsecondary level, some community colleges work closely with employers to identify skill requirements for new and seasoned employees, and in some cases to provide customized training. Local public schools at all levels join in "business partnerships" that bring them in-kind and cash donations and bring employers welcome local recognition.

Before passage of the STWOA, some states had already passed major educational reform legislation that emphasized employer involvement in education, including several of the states examined in the in-depth study component of this evaluation. Wisconsin's Education for Employment Initiative in the late 1980s, for example, required schools to establish school-business committees to design employability skills curricula, and had the effect of promoting communication between schools and employers. Educators in several local STW partnerships in Kentucky credit their state's 1990 reform law (KERA)--and particularly its emphasis on performance-based assessment and workplace relevance--with increasing support for STW among employers. Oregon's 1991 reform law required schools to involve employers in developing career majors and establishing work-based learning opportunities.

Employers are increasingly playing three kinds of roles in STW partnerships. Representatives of firms and employer associations participate in governance bodies by serving as members of policy boards and leadership committees. Firms provide opportunities for students to engage in the range of workplace activity described in chapter III and chapter V, from brief worksite visits to extended internships, paid

employment, and structured training. Employer staff support in-school activities, particularly efforts to focus curriculum and counseling on careers. For employers, each of these roles presents particular challenges and has prompted practices designed to strengthen the partnership between employers and educators.

### 1. Employers Participate Widely in Partnership Governance

The federal STW legislation envisions employers as "partners" in building a STW system, not simply supporters. This implies active involvement in ongoing priority setting, and joint decision making with educators and other partners about resource allocation. A governance role usually means sitting on a partnership board or steering committee.

More subsidiary or episodic roles, such as hosting students at the workplace or attending career awareness events, may engage large numbers of employers. At a minimum, every state has required evidence from local partnerships that employers are participating in at least some way.

At the state and local level, employers are indeed members of governance boards, but it is not very common for them to play the dominant or lead role. The federal legislation simply requires participation of employers in a local partnership. Among the eight in-depth study states, two (Kentucky and Michigan) now require that private sector representatives constitute 51 percent of the boards of local partnerships or the workforce development boards that oversee them.[3] Even if no specific percentage is required, some other states have judged applications for STW implementation grants in part on the number of private sector partners and the strength of their commitment, and have persuaded partnerships to strengthen their applications by adding more employers.

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[3]Similar requirements have been established for local STW boards in several states not included in the in-depth study. Arizona and Nebraska require 50 percent private sector membership, and Utah 30 percent; North Carolina suggests that private sector representatives chair local partnership boards (unreported data collected for Hershey and Rosenberg 1996).

Having employers and educators working together for local partnerships has clear benefits, but it also creates issues which must be addressed in order to make the partnership productive. Differences in work style are often cited by both sides; educators are accustomed to long debates for thrashing out disagreements and reaching consensus, while business representatives have busy schedules and little tolerance for long meetings. Comments from both educators and employers during site visits suggest that business leaders are unaccustomed to the complex restrictions, public scrutiny, and local sensitivities that educators must struggle with as they devise program plans and try to carry them out. Some employers, frustrated over past perceived slights, are skeptical that their views will be taken seriously. One business leader acknowledged that sometimes "business people don't want to solve the schools' problems because they believe that schools are the problem."

Efforts to promote productive cooperation in governance take three forms: (1) confirming the central role of employers, (2) maintaining and improving communications between employers and educators, and (3) carefully designing outreach to employers in order to win their participation.

- ***Private Sector Chairs.*** About 9 of the 33 substate partnerships in the evaluation case studies have made high-level corporate executives the leaders of STW partnership boards. Employers and educators identify several advantages to naming private sector chairs. First, it sends a message to the public and employers, in particular, that STW is of concern to the business community and that it can play an important role. Second, it offers employers some confidence that decisions will be made and actions taken. One Michigan partnership chairman, for example, noted that in running board meetings he allows a certain amount of time for discussion of an "action item" on an agenda, looks for consensus, and if none develops, makes a decision for the board. Third, it increases chances that leaders' firms will participate in other ways.

- ***Promoting Communication.*** Maximizing ongoing communication among partners is of obvious importance. One Wisconsin partnership develops a regular schedule of meetings between educators and employers at a variety of levels: the partnership-wide board, employer and school staff involved in specific programs or activities, one-on-one meetings between individual school staff and representatives of firms, and open forum meetings for the broader community. This strategy can help firms and school systems ensure that they have access to both "top level" and "bottom up" sources of information. Regular meetings, at any level, can also be used as a forum for orienting and educating new partnership members as turnover occurs.

- ***Employer-Sensitive Outreach.*** Special attention to employers' needs and concerns can attract them to positions on governing boards as well as other roles. Chambers of commerce and other business associations in many of the partnerships have been instrumental in linking business with educators, government, and labor to support STW activities. When prominent business leaders chair the partnership board, they can be instrumental in soliciting other employers to join and support the board.

## 2. Steps to Encourage Employers in Providing Workplace Opportunities for Students

The collaboration between educators and employers to expand students' opportunities for workplace learning creates strains on employers (see Chapter V). Employers must fit students into their worksite environment and schedule, taking into account legal restrictions, safety concerns, other demands on their staff, and the skills and time their staff need to work effectively with students. In some cases, these issues impose clear and immediate costs, and in other cases they create risk of future liabilities. As more and more partnership schools seek workplace activity opportunities for their students and contact greater numbers of employers, the real and potential costs for employers escalate. States and partnerships have developed two approaches that seek, among other things, to mitigate these strains on employers: databases of participating employers and technical assistance to employer partners on how to work with students.[4]

**Employer Data Bases and Areawide Coordination.** As efforts to increase the scale of workplace activity continue, willing employers can quickly become a scarce asset sought by multiple schools. Left to act independently, representatives of different districts, different schools, or even different programs within a school sometimes end up seeking out the same employers in efforts to develop opportunities for worksite visits, job shadowing, internships, and other forms of workplace activity. School partners may, as a result, be disappointed by employer response. Some employers report that they feel overburdened by competing requests. This problem appears most likely to arise where there are numerous schools or many

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[4]As described in Chapter II, state policies have also defined ways that local partnerships can create financial incentives for employer participation.

geographically small local districts in heavily populated urban or suburban areas, and large employers that are well known throughout the area.

Where this issue is recognized, state and local efforts to address it have so far focused on creating employer databases. The developers of these databases claim, in varying combinations, three purposes: (1) to maintain a systematic listing of employers who have agreed to participate in STW activities, as a resource for school-based liaisons; (2) to record actual assignments of students to workplaces for particular times, so other school staff or students do not request the same opportunity; and (3) to create a convenient basis for reporting on the workplace activity component of their partnership.[5] In part, the emphasis placed on constructing employer databases derives from interest in conducting centralized recruiting of employer partners, so individual schools (or even districts) do not each have to create and staff this function. A database is viewed as a way of distributing information on employers for use by widely dispersed school staff.

These efforts vary greatly in both the level of design sophistication and stage of development. At one extreme, Oregon is attempting an ambitious database that will keep track of available workplace opportunities and their use by students. More commonly, databases are intended as simple directories of participating employers, and less emphasis is placed on using the database as an interactive management information service for reserving slots or reporting on workplace activity. For example, a school district in one Wisconsin partnership prints a business partners directory listing employers and the services and worksite opportunities they provide. Early database development efforts were also observed in partnerships in Michigan and Massachusetts. Sometimes early development efforts are undertaken without full consideration of the functions the systems could perform or the technical design required to fulfill them.

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[5]Some databases in use or under development appear designed specifically to serve evaluation purposes rather than the operational needs of finding worksite opportunities and placing students. For example, the Florida Education and Training Placement Information Program (FETIP) links follow-up outcome data to various state databases. FETIP is expected to be extended soon to allow tracking and analysis of outcomes for Tech-Prep students and participants in other workforce preparation programs.

For example, a multidistrict consortium within one partnership intended to develop a pilot employer database that would later meet partnership-wide needs. It implemented a simple word processing file of employers, with no capacity even to sort worksites by zip code location as a basis for matching students to conveniently located opportunities.

**Helping Employers Master Their Mentoring Roles.** A supervisor in an automotive design and engineering firm and a nursing supervisor in a hospital may be expert in their fields but unaccustomed to the particular challenges of working with teenage students. Many firms that provide students with intensive workplace activities are expected to assign a mentor to each student, but the staff placed in these mentoring roles may feel unsure about how to balance technical instruction with personal advice, what limits to set on the student's activity, and the appropriate boundaries on their relationship with the student. Training worksite mentors for their roles is widely viewed as an important part of a strategy to expand workplace activities for students.

Developing mentor training curricula and providing it at no cost is therefore on the implementation agenda of some states and local partnerships. In Massachusetts, for example, the state STW office has supported the development of an extensive curriculum for training employer mentors at several community colleges. The directors of one Michigan partnership attended the National Worksite Supervisor Development Institute at Southern Maine Technical College, then returned home and began offering employers in their area a 24-hour training program. In both cases, consideration is being given to offering such training as a college for-credit course.

As useful as this training may be, experience to date suggests that the breadth and depth of such training should be kept moderate. Several local partnership representatives in Massachusetts, for example, noted that the full course structure being developed under college auspices is too extensive and complex for the time that employers can allocate for mentor training. A similar conclusion was reached in a

Wisconsin partnership, where an intensive 40-hour curriculum for employer mentors was scaled back to 16 hours.

### 3. Employers Can Help Teachers and Counselors Learn About Careers

The need to improve teachers' understanding of the career options and demands their students will face has led many partnerships to initiate internships and other worksite experiences for school staff. The perception is widespread that community college faculty and teachers and counselors at both the high school and middle school level too often have limited understanding of the workplaces their students might aspire to join. To enhance counselors' roles in advising students on possible careers, or teachers' ability to make instruction in science, math, or communications relevant to workplace demands, employers are often called on to invite school personnel to their facilities.

Staff internships and worksite visits are now common events. In nearly half of the partnerships included in the case studies, internships or worksite visits for teachers and other school staff were either held or were being planned during the 1995-1996 school year. Their form and duration vary widely. In one case, teachers spent 40 hours over a two-week period in a single business. In many other instances, teachers visit a workplace for a single day or just a few hours.

These occasions are widely viewed by educators and business partners as essential to strengthening communication between their two worlds. They bring teachers and employer representatives together to discuss their goals and needs, and provide teachers with concrete information about the skill requirements of various industries.

The ultimate benefit of these worksite opportunities for educators depends on how systematically the experience is put to use in the schools. Most promising are teacher internships that are combined with a structured curriculum development effort. For example, a direct federal grantee in Omaha has for two years run an extended industry internship program for teachers, counselors and administrators during the summer. It involves several types of workshops on skill analysis, instructional methods, and curriculum

integration. In many cases, however, teacher internships and job shadowing culminate in the development of a unit or lesson plan for a single day's class and in some partnerships teachers are not really expected to prepare any product based on their experience.

**Teacher Internships in Omaha Emphasize Curriculum Products**

Over the course of two summers, 130 teachers, counselors, and administrators have participated in Omaha Job Clearinghouse industry internships, for one week or four weeks. One-week interns complete "skill observation" forms, and then recommend curriculum approaches to develop target skills. Four-week participants take a four-day instructional skills workshop before the internships, focusing on integration of academic and vocational instruction, and after the internship develop curriculum materials for the next school year.

It remains unclear whether worksite experiences for educators will go beyond the pilot projects observed so far. Hosting educators in such worksite experiences is widely appealing because it epitomizes the interest educators have in learning from employers. However, most of the examples discovered in the early evaluation site visits were first-time events typically held for at most a few dozen teachers, and in some cases with less structured emphasis on curriculum products than in the Omaha partnership. An important issue for the future is whether this mode of collaboration among partners can become routine, and either include larger numbers of teachers or use a small core group of participants to exert a strong influence on curriculum and instruction among other teachers back at their schools.

## C. ROLES OF OTHER PARTNERS: LABOR AND PARENTS

Educators and employers or employer organizations are the most visible and active STW partners at the local level in the in-depth study sites, but others are clearly involved. The STWOA requires that partnerships include labor organizations and students, and presents a long list of other entities that may be partners, including parent organizations, government agencies, and others. The legislation is ambiguous, however, about what being a partner means. For purposes of this evaluation, we are focusing on individuals and organizations that play a sustained role in defining STW initiatives or guiding their implementation, rather than considering every entity that might support STW reforms or play episodic

service delivery roles. Membership and leading roles in local partnerships may well evolve in the future, but at this point the roles of two potential types of partners appear worthy of comment: labor organizations and parent groups.

### 1. Organized Labor Has Played a Limited Role So Far

Labor participation in STW is desirable for several reasons. First, organized labor has a significant presence in careers that can attract many students, and in many areas entry to some of these occupations requires completion of union-sanctioned apprenticeships. If partnerships wish to increase student participation in registered apprenticeships, unions will have to play a role. Second, unions can be a valuable resource for efforts to define skill standards in certain occupational areas. Third, educating students to understand the world of work and all aspects of certain industries includes developing their awareness of the role of organized labor. Finally, creating extensive workplace learning opportunities in unionized industries will require collaboration with labor organizations, at least to overcome their concerns, but also to ensure that students get a well-rounded view of the industry environment.

Almost all state and local STW plans identify organized labor representatives as partners, but thus far labor organizations have been notable primarily at the state level, and even there in modest roles. At this level, labor organizations are represented on governing boards, where they serve in an advisory capacity and sometimes help review local partnership funding applications. Through both of these activities, labor representatives can help ensure that local partnerships at least intend to solicit labor input. In a few states, unions appear to play other roles at the state level. In Michigan, representatives of organized labor serve on state-level skill standards committees and are working with educators to create "school-to-registered-apprenticeship" opportunities. In Kentucky, one of the major trade unions has produced a video that will be used to market apprenticeships statewide. Wisconsin's Department of Workforce Development has contracted with the state office of the AFL-CIO to advise local partnerships on labor-related issues.

It was difficult to identify active union roles in many local partnerships during the first round of site visits. Some examples were found, however. In Rochester, New York, for example, the Rochester Labor Council received a mini-grant from the partnership to produce a coloring book and companion workbook for elementary grade students that was designed to develop their awareness of careers and particularly the connection between various occupations and organized labor. In Boston, students in the utilities and communications pathway work with union leaders and are expected to become union members when they enter worksite training. The communications workers' union has trained members to work with students, and views its involvement as a way not only to help students but to sustain its membership in the long term.

So far, four factors appear to limit labor's role in early STW implementation. First, in some states, unions simply object to certain concepts that are commonly espoused as part of STW systems. For example, in Michigan, Ohio, and Wisconsin, unions have objected to the term "youth apprenticeship," because these training activities do not meet the standards of state-sanctioned registered apprenticeships (18-year-old minimum age restrictions, for example). Michigan's union representatives are working with state personnel to create alternative program frameworks and designations that the unions can support. Second, several local and state-level union representatives expressed concerns about the potential displacement of mature workers by low-paid students in entry-level jobs.[6] Third, some labor representatives expressed the view that their role may weaken because state agencies and other local partnership members may not really want organized labor to be an equal partner. In one state, labor representatives complained that they had served at the state level on early planning committees, but were not consistently consulted about who should represent organized labor at the regional and local level. In another state, labor representatives were unhappy that they (as well as employers) were asked to comment

[6]In Wisconsin, as a result, language has been included in the youth apprenticeship agreements signed by students, parents, schools, and employers explicitly stating that the hiring of a youth apprentice will not displace a currently employed worker or in any way be inconsistent with collective bargaining agreements.

on the state's career cluster model, but had not been asked to participate in its development from the start. Finally, in some partnership areas, especially in rural areas, there is simply little union presence.

### 2. Parents Participate Sporadically, But Not in Organized Groups

Parental support for STW reforms is important, as it is for any major change in local schools. Many STW coordinators indicated that building parental awareness and support is vital to their partnerships' success. There are two distinct ways in which parents can affect the development of STW systems. On the one hand, parents as individuals can, in their attitudes and responses to curriculum and activities promoted by the local partnership, encourage or obstruct change in the experiences available to their children and other students. Second, organizations of parents can be important as active players in partnership governance and program implementation, or as external critics of the partnership and its initiatives.

**Parental Response to STW Is Mixed.** In the absence of systematic data on a representative sample of parents, confident characterizations of parents' overall level of awareness, understanding, and support of STW initiatives are impossible. It is nevertheless clear from the site visits that STW partnerships and member schools face the same challenges in attempting to inform and involve parents that they typically do in normal program operation and any reform effort. Beyond that, we can only characterize the nature of expressed parental concerns and the reasons for parental support by example.

Efforts to inform parents about STW initiatives must often be made to convince parents that STW partnerships are working to raise academic standards and achievement, not to dilute them. Some parents in many partnership areas are concerned that encouraging students to focus on preparing for a career will "track" them into narrowly defined occupationally oriented courses that they associate with vocational education and low-status careers. Efforts to promote workplace activities trigger concerns that these activities will be at the expense of rigorous academic preparation. These concerns arise among well-educated middle class parents who have always assumed their children would go on to four-year colleges

and in low-income areas where parents may be wary of any suggestion that their children might not. For example, a group of parents in one Florida partnership indicated that they don't want their children missing any class time to participate in workplace learning experiences because doing so would detract from more important academic study. At this same partnership, employers representing the construction industry indicated that parents are the biggest obstacle to recruiting students for youth apprenticeship programs.

Parental skepticism, however, is by no means universal. In partnership site visits, we encountered parents who expressed great enthusiasm over the effect STW activities have had on their children's school performance. For example, in several Oregon partnerships we spoke with parents of children who had taken part in a school-based enterprise or internships; these parents indicated that their children were more positive about school, more serious about their studies, and now had higher aspirations toward postsecondary education. Several of these supportive parents indicated that their children had learning disabilities and that they had benefited from the kinds of applied learning promoted as part of the STW initiative.

Parents, of course, can be found participating in specific STW activities with their children, and partnership schools encourage this. For example, in one Kentucky partnership a partnership handbook invites parents to support their children's preparation of individual career development portfolios, to meet with teachers to discuss their children's early interest inventories, and to continue providing input over the years as portfolios are updated. At the federally funded Alamo-Navajo Partnership in New Mexico, the school counselor and STW coordinator meet monthly with parents of students in grades 11 and 12 to discuss STW activities and their children's progress and to encourage the students' participation in workplace learning and articulated courses that can serve as a bridge to college enrollment.

**Organized Parental Involvement Is Uncommon.** Partnership coordinators can often name a "parent member" of the local governing board. Sometimes they are active in a parent organization, and sometimes they have other roles, such as a teacher, counselor, or union member, that give them a valuable

perspective for developing STW plans. Their involvement as individuals, however, does not always translate into involvement on the part of these organizations. Examples of concerted efforts to include a parent organization in a partnership's governance structure or to organize parental involvement in other ways have been less commonly found.

Site visits did, however, uncover some instances in which efforts to organize roles for parents are being made. For example, in one Oregon partnership a parent volunteer group organized in the mid-1980s works to promote student awareness of career and postsecondary education opportunities. Parents have helped counselors administer skills tests and interest inventories, met with individual students to help them research careers and colleges, prepared a handbook on postsecondary options, and helped organize orientation sessions on postsecondary education and financial aid procedures for juniors and seniors. The Omaha Job Clearinghouse partnership maintains a database of parents that indicates which STW activities they are willing to participate in, and over 100 parents were recruited to speak to sixth graders about careers.

Evidence of well-organized parental opposition to the entire STW endeavor was also found in a few states. Small but very vocal groups of parents and other community members have mounted vigorous campaigns, at state-level legislative hearings and through local mailings and public meetings. These groups decry the STW movement as an insidious attempt to force students into occupations chosen for them by employers interested in their own labor needs but not in education. The major effect of these groups' activity has been to energize local partnerships and state STW offices to devote greater energies to refining and clarifying their public explanation of STW goals. In one state, the STW office was prompted to pay special attention to documenting expressions of support for the STW concept and provide this positive information to the legislature and the press, in order to ensure a balanced representation of public responses.

## D. THE SIGNIFICANCE OF THE LOCAL PARTNERSHIP

STW systems are envisioned in the STWOA as more than just the sum of various partners' independent efforts. To be sure, much of the effort to develop components of STW systems is being made by the individual schools and the employers and other partners who have come forward to work with them. In some instances, particularly in large partnerships with many districts and schools, the STW activities these efforts create are so varied and in such evolutionary stages that partnership coordinators are not even fully aware of some of them. Given the strong tradition of local school control, STW partnerships have little formal leverage to establish a particular approach to any problem across school districts. A complete panorama of what is being done to develop a STW system in a partnership area must, in many cases, therefore be composed of close-up views of each school and its partners. However, local partnerships are a logical mechanism for carrying out some of the "connecting activities" described in the STWOA--to create linkages or connections among institutions, and to connect students to workplace opportunities.[7] An important issue for the future, then, is whether STW partnerships as institutions contribute something to the development of STW systems beyond what their members could accomplish on their own.

The partnership structure for STW systems required by the STWOA creates the potential for institutional linkages in two dimensions. A formally structured partnership can create an "umbrella" for working relationships among *different types* of partners such as schools, colleges, employers, and unions. This is the focus of the definition of partnerships in the STWOA. A partnership can also create a framework for working relationships among multiple partners of the *same type*. The STWOA makes no presumption or prescription for how large partnerships should be. A partnership with the appropriate types of members could include just a single school working with a college and one employer. A partnership

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[7]Approaches to connecting students to workplaces and encouraging employers to provide such opportunities are discussed in chapter V.

could also be a "large-area" structure that encompasses dozens of school districts, numerous employers, and a variety of postsecondary institutions.

Although it is not explicitly called for in the federal legislation, the "large-area" model is common. Among the 33 substate partnerships included in the in-depth studies, 17 include more than five school districts and six include more than 20 districts, sometimes with as many as 30 or 40 high schools. Seven of the partnerships include only a single district, but some are very large, and only three of the partnerships include fewer than six comprehensive high schools. Across all partnerships in the eight states, 80 percent include six or more high schools.[8]

The potential for something that could reasonably be called a STW system appears to lie in the roles that can be played by partnerships and that go beyond very localized cooperation between a school and its employer partners. In most areas of the country, individual high schools and even modest-size school districts often serve areas that are too small to include industries of potential interest to their students, or the range and number of workplaces required to appeal to a broad segment of students. Except in the case of large metropolitan school districts, partnerships will most likely have to span multiple districts to create the opportunities envisioned in the STWOA. There are also, of course, drawbacks to very large partnerships; they may be so cumbersome, and their members so diverse, that it is difficult to identify common interests and reach joint decisions.

At this early stage it is premature to judge the ultimate importance of local partnerships, but it is possible to characterize the functions that partnerships appear to be performing. The following section examines the functions that partnerships--as entities distinct from their members--are performing in varying degrees. A clearer sense of the prevalence of these functions will be developed in later rounds of the

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[8]The sample of in-depth study partnerships consists on average of larger partnerships than the entire universe of partnerships in the eight states, because the in-depth study sample was primarily based on the sample drawn for the student survey. For that sample, partnerships were sampled with probability of selection proportional to their size, giving larger partnerships a greater chance of being selected.

evaluation. The second section examines the question of whether these functions can be sustained over the long term.

## 1. The Functions of the Partnership

To function in a meaningful way, a partnership must be more than just a governing body with the broad membership envisioned in the STWOA. A partnership's governing body can make policy, but what happens beyond statements of policy and intent will determine how important the partnership is in creating STW systems. After the initial examination of the in-depth study partnerships, we can identify four functions that they perform beyond expressions of common goals: (1) distributing partnership grant funds, (2) creating a forum for exchange of information and professional development, (3) expanding the scale at which STW components operate, and (4) promoting consistency in how STW activities are conducted. These functions, however, are given widely varying emphasis in different partnerships, and how each is approached can affect other functions.

**Distributing Funds Often Critical to Local Involvement in Common Goals.** Almost without exception, the fiscal agent that receives a STW grant passes some of it on to more localized units within the partnership. Through a variety of means, partnerships typically pass on funds to schools, districts, consortia of schools or districts within the larger partnership, community-based organizations that provide services, or in some cases employer organizations such as chambers of commerce. In partnerships with small grants, of course, there may be very little to disburse after the basic costs of a partnership coordinator's salary and office are covered. In large partnerships, however, "mini-grants" within the partnership are a way to solidify district and school support and sometimes guide local efforts toward commonly defined goals.

Partnerships distribute funds in several ways. In some partnerships, coordinators from participating schools meet and jointly decide to allocate funds on an "as needed" basis. Other partnerships divide funds equally, or on a formula basis, among member schools or districts. Several partnerships in the in-depth

study have used a competitive process, awarding "mini-grants" to schools or other entities on the basis of solicited proposals. Most of the 33 substate partnerships included in the in-depth studies appear to have consciously distributed funds widely, but three in Maryland, two in Oregon, and at least one in Michigan have chosen to initially focus their resources on a few schools. This approach in some cases reflects judgments about the readiness of schools for STW initiatives; in other cases it represents a decision to develop, test, and refine "model" approaches carefully before any attempt is made at broader implementation. In a few instances, however, it has had some negative consequences. In one partnership, educators from schools not included in the early partnership agenda have felt left out and "lukewarm" about the prospects for later involvement. That example raises a caution: that roll-out strategies built around a few "pilot schools" may run the risk of reducing chances for building a larger-scale partnership among all formally participating members, unless there is widespread agreement on the strategy from the start.

The distribution of at least a portion of a partnership's resources to its members is likely to be an important ingredient in building a true STW system. Many districts and schools are so financially pressed that even modest STW initiatives require resources that cannot be found in their regular budget--for example, freeing up part of a teacher's time to coordinate worksite activities. Disbursing STW funds can help engage partnership members in an overall partnership enterprise with goals and procedures that respond to concerns beyond the most localized school or district perspective. Whether distributing subpartnership grants actually serves system development goals, rather than only the objectives defined and programs developed by a particular school or employer, however, depends on the context in which the recipients of the grants compete for, spend, and report on the use of the funds.

**Structures for Information Exchange Are an Important Next Step.** The board or governing council of a partnership serves to some extent as a forum for exchanging information among partners, but developing STW system components suggests the use of additional channels for communication among

staff in comparable roles and facing similar challenges. A variety of groups that span partnership members may benefit from regular communication: employers who work with student interns, math teachers trying to introduce applied forms of instruction, vocational and academic teachers developing joint projects, guidance counselors taking on heavier career development roles, curriculum coordinators working on definitions of career pathways, and others. Promoting intrapartnership communication among such groups can help prevent every school or employer from reinventing the wheel to address problems already experienced by others, educate new members about STW and partnership approaches, and promote the formulation of goals that extend beyond individual school concerns.

A variety of formal and informal local organizations already exist to create a forum for such groups. Some date from efforts under Tech-Prep consortia to introduce new curricula and promote articulation. For example, a Tech-Prep consortium in Massachusetts that overlaps with one of the case study STW partnerships created committees of math, science, and English teachers to develop applied approaches to instruction in their respective subject areas. Others are long-standing professional groups, such as organizations in southeast Michigan for guidance counselors and curriculum coordinators, or a "counseling institute" for guidance counselors from all the schools in one Oregon partnership. These groups provide a ready foundation for promoting specialized communications. However, in some cases, such organizations predate STW partnerships and may have larger or smaller geographic scope, and thus provide only a partial venue for internal partnership communications.

The most common purpose for information exchange, and often the most obvious focus of partnershipwide activity, is professional development. Partnerships commonly sponsor and organize conferences and workshops for both general and specific audiences, to introduce them to broad STW concepts and to focus on particular topics of concern. Often, of course, such sessions have mixed purposes: both professional development and active contribution to joint decision making.

**Partnerships Can Promote Larger-Scale STW Components.** By merely providing resources for specific purposes to local schools or other members, partnerships can increase the scale of particular STW components. Funding for curriculum development projects at the school level, for example, can increase the number of students who have access to career major options or applied instruction. Funding workplace coordinators at schools can increase employer recruitment efforts and allow expansion of internship or job shadowing activities.

Partnerships can also, however, take actions that shift STW components from the realm of individual member efforts to a combined, larger-scale effort. Some partnerships, for example, hire staff whose function is to develop employer worksites for multiple schools or districts, as in the Gratiot-Isabella partnership in rural Michigan.

**Partnership Supports Areawide Employer Recruiting**

The Gratiot-Isabella STW partnership in rural Michigan includes nine school districts in two rural counties. Rather than leaving each district to seek its own employer partners, the partnership contracted with the two counties' chambers of commerce to do areawide employer recruiting. Each chamber hired a consultant to work with businesses and teachers to set up work experience activities for students from all partnership schools. They developed and distributed a brochure soliciting business participation throughout the area and organized business roundtables.

Increasing the scale of operations can in some cases yield important advantages for schools, employers, and students. Areawide employer recruiting and worksite placement can give individual schools access to workplace opportunities outside their district that would otherwise be regarded as the domain of another district. It can also reduce employers' sense that too many partners are making simultaneous requests for their involvement. Conducting partnershipwide events such as career or technology fairs can open more varied opportunities for students.

**Promoting Consistency Requires Leadership and Local Willingness.** Some degree of consistency in practices among the members of local partnerships is likely to be important if STW systems are to exist in more than just name. For example, if multiple districts in a partnership are going to be seeking job

shadowing or internship opportunities from area employers, they will likely wear out their welcome quickly if each has different expectations and procedures.

Promoting a larger scale of operations does not necessarily, however, imply an emphasis on consistency across schools and employers. Among the partnerships included in the in-depth studies, it is relatively uncommon at this stage of implementation for partnership leaders or governing bodies to be giving much emphasis to consistency of policy, goals, and approaches across member districts and schools. Most partnerships focus on distributing funds to their members and provide only limited overall policy guidance.

However, some partnerships are striving to achieve a measure of consistency in approach and procedures, by using technical assistance, professional development, and funding to promote this goal. One Michigan partnership that includes 21 school districts, for example, has created an infrastructure of specialized task forces to promote countywide common approaches to STW components. In some cases, these task forces, which include representatives from across the county, develop procedures that can then be adopted by the constituent districts. In other cases, the task forces approve mini-grants to a school or multischool consortium for a pilot implementation, but only if its funding application is first found to promise a model that will be applicable elsewhere. In a much smaller Oregon partnership, the coordinator develops materials related to job shadowing, student assessment, and career development, and makes them available to all schools, in an effort to ease their workload and promote consistency.

Achieving any degree of consistency across partnership schools and workplaces means overcoming obstacles. The one most commonly cited is a strong tradition of local control over schools. Developing joint approaches to conducting job shadowing, or making joint decisions about which districts will offer particular career pathways, implies giving up some degree of local school autonomy. In many communities feelings about local control over schools and maintaining tight control over school resources run strong. For example, in one small district in a large Michigan partnership, public questions were raised about the

use of school buses to transport the district's students to workplace opportunities outside district boundaries. Such concerns must be carefully considered when plans are made to develop STW components that offer each member partnershipwide opportunities.

**2. Prospects for Sustained Partnerships Uncertain**

Although many of the in-depth study partnerships are undertaking ambitious efforts to increase the scale of STW components and promote an areawide STW infrastructure, the federal funds that flow to and through these partnerships are the fuel that has given them momentum. In some cases it is even the prospect of federal funding that triggers the formation of a partnership. Federal grants to states last only five years, however, and federal funding for substate partnerships is also temporary. An important question for the future is whether federal funding, intended as "seed money," will actually bear fruit in the form of a sustained network of STW partnerships. No definitive answer can be offered at this early stage, but it is clear that two ingredients will be important if partnerships are going to continue serving a purpose after federal grants expire: (1) a real stake for members in their continuation, and (2) some form of financing to support those functions that must be carried out by the partnership as a whole.

**Sustaining Partnerships Depends on Benefits to Members.** Once federal funds and attendant requirements lapse, members' commitments to maintaining partnerships are likely to depend on how thoroughly they have been convinced that the partnership is useful. The issue will not be simply whether STW activities serve students' interests, but whether maintaining the structure of relationships, joint decision making, and coordination serves them better than the independent efforts of districts and schools. From the perspective of employers, the issue will be not only whether working with schools serves their interests, but whether they are served better by the larger-scale partnerships that are now common than by simple bilateral arrangements between employers and individual schools. Whether these conditions are met is likely to depend on whether, during this period of federal funding, partnerships actually focus on

developing a common STW philosophy and policies, and consistent definitions and procedures for major STW activities.

For the answer to these questions to be positive, partnerships will have to demonstrate over the next several years that they provide schools and employers with something that they cannot produce on their own or through simple joint efforts. Examples of such functions and the benefits they could be recognized as providing include:

- ***Matching Students to Workplace Opportunities:*** Expanded choices for students, reduced employer recruiting and placement costs for schools, elimination of unreasonable and conflicting demands on employers, evidence to employers that STW activities are beginning to provide motivated, skilled new employees
- ***Professional Development Services:*** Access for schools to expertise they might not be able to afford on their own; promotion of local professional communities
- ***Facilitation of Multilateral Agreements:*** For postsecondary members, providing an efficient forum for communications, articulation, and student recruitment involving multiple secondary partners to avoid the need for redundant efforts

**Partnerships Will Require Resources.** To provide "added value," partnerships must have some resources to devote to such functions. Partnerships that in the short term simply pass most of their resources on to local schools are unlikely to demonstrate that they serve any other function. Partnerships that use some of their resources to develop an active partnership staff, on the other hand, will have to find other ways of supporting their functions in the future.

So far, few of the in-depth study partnerships have clearly identified how they will support their activities as an institution when federal funding is no longer available. In many partnerships, STWOA grants are the sole source of funding for partnership staff and related costs. Some can draw on other federal funds such as Perkins and Goals 2000 funding, but their availability in the long term is not certain either. Partnerships that are using state and local funds are generally applying them to specific services

such as professional development or development of block scheduling arrangements, but rarely to create or support a basic partnership staff.

There are cases, however, in which at least some thought is being given to sustaining the partnership. Local school districts in one Kentucky partnership have reportedly pledged to continue supporting STW initiatives through local school council funds. It remains to be seen, however, whether such intentions go beyond supporting the districts' own involvement in STW activities and also include supporting a joint capacity for planning, coordination, and operation of areawide functions. Several partnerships in Massachusetts have taken or are contemplating taking steps to create independent entities that can seek and receive a variety of funding in the future. In one, a nonprofit organization under section 501c(3) of the Internal Revenue Code has been established, although its sources of long-term support remain unclear. Another is trying to convince the area chamber of commerce to take over some of its employer recruiting and coordination functions. How these ideas develop as federal support for local partnerships declines is a crucial issue for the long-term significance of STW systems.

## VIII. EMERGING IMPLEMENTATION ISSUES

The long-term consequences of efforts to make the school-to-work concept a foundation for changing education are still uncertain. States and local partnerships included in the evaluation in-depth study have made progress. However, some states just began in the past year to implement state-level strategies and encourage creation of STW systems at the local level. Many local partnerships are new and are still working to form a consensus on what STW means and how partners can contribute. Given the early stage at which we observed STW implementation efforts in 1996, it would be premature to suggest conclusions about the "success" of STW systems. However, the experiences and efforts of states and local partnerships have identified some of the hurdles that must be cleared to accomplish positive, lasting reforms that add up to a STW system. This early experience highlights five questions whose resolution over the next several years will inform later conclusions of this evaluation:

1. Can states fit STW systems into a coherent education policy framework?
2. Can structured work-based learning of the sort envisioned in the STWOA become commonplace?
3. If not, in what other ways might workplaces be used creatively for all or most students?
4. Can school curriculum be organized consistently around career themes?
5. Will STW partnerships become important, sustainable institutions?

### A. CAN STATES FIT STW INTO A COHERENT EDUCATION POLICY FRAMEWORK?

Reshaping education is exceedingly complex. Political and fiscal constraints and pressures, at both the state and local level, intersect with organizational challenges and pedagogical uncertainties. Local control over schools and heavy reliance on local resources for school financing make addressing even the most widely perceived problems a matter for local debate over priorities and alternative solutions.

However, many states are taking active leadership roles in changing education. To varying degrees, states are (1) making schools accountable for performance, measured largely through prescribed student testing; (2) promoting curriculum change, through frameworks, skill standards, technical assistance, and professional development; and (3) requiring school improvement plans and allowing increased school-level autonomy. An important question for the future is whether these education reforms and efforts to create STW systems will complement and reinforce each other. The first round of evaluation site visits highlighted several ways in which some education reforms and STW implementation efforts may be weakly integrated or even at odds, at least as they are at first being attempted.

At a practical level, STW activities can compete with efforts to raise academic standards. Most of the eight states in the in-depth case studies are promoting an increasing emphasis on comprehensive career development models. Career development as widely interpreted implies student activities such as career awareness classes, infusion of career themes and issues into academic classes, worksite visits, and job shadowing. These activities take instructional time, whether they are conducted as separate activities like classes or trips outside the school building or as uses of classroom time in existing courses. At the same time, other educational reforms emphasize raising academic standards and achievement, either by imposing new standards and assessments or through procedural requirements (such as specifying the minimum time students must spend in academic classes).

Competition between these two priorities is sometimes perceived by school staff as eroding the resources or rigor of the traditionally defined academic program. English or social studies teachers may be expected to incorporate career development units into their classes. Time may be carved out of academic classes for students to prepare individual career plans. Scheduling groups of students or individuals for job shadowing or worksite visits sometimes may require students to miss an academic class. A requirement for a full-semester class organized around career awareness activities can crowd out elective academic classes. Teachers in some in-depth study schools, faced with pressures to raise

academic achievement and also fulfill new goals pertaining to career awareness, have described the stress they feel. The result, unfortunately, is that sometimes the newly required career development activity is carried out in a spirit of compliance rather than in one of creative exploration.

Similarly, emphasis on increasing participation in intensive forms of workplace learning may be perceived as competing with efforts to raise academic standards. Structured workplace learning in many places must be scheduled fully or partially within school hours. As states eliminate general track diplomas and increase graduation requirements in academic subjects, it becomes harder for students to accommodate both academic electives and extended workplace activity in their schedules. To the extent that students face this trade-off, there is a risk that gaining the benefits of structured workplace learning could mean sacrificing chances for more advanced academic courses.

On the other hand, many STW proponents stress that what they are seeking to accomplish is entirely consistent with ambitions to improve academic performance. According to many educators we have spoken to, making instruction in academic subjects more concrete and tangible and increasing the emphasis on academic skills in vocational curriculum help them achieve the goals of broader educational reforms. The time required for career development activities and work-based learning may motivate students and enhance their academic performance. Success in getting STW and general education reforms to mesh will require, at the state and local level, a focus on ultimate goals that they share and the things that schools and their partners can reasonably do to advance them.

## B. CAN STRUCTURED WORK-BASED LEARNING BECOME COMMONPLACE?

Early STW implementation experience already makes clear how difficult it will be to make structured work-based learning an ingredient in the education of a large and diverse segment of American youth. Prospects appear strong for less intensive career development activities like brief job shadowing or workplace visits to become routine for many students. Indeed, the survey of 12th-grade students in STW partnerships in the eight in-depth study states suggests that such activity is already quite widespread, if not

always developed into sequences of progressively more focused exploration. More intensive forms of workplace learning linked to a school program are less common.

As states and local partnerships begin trying to expand the more intensive forms of workplace activity, they are encountering constraints. These constraints operate in various ways--by limiting the number of participating employers, the capacity of schools to work with the employers, and the number of students who are interested. These constraints include:

- ***Students' Time.*** Intensive workplace activities arranged by schools take up a lot of time, and relatively few students so far appear able to fit such commitments into schedules already crowded with courses required to graduate or get into college and with other extracurricular activity--including their own after-school jobs.

- ***Number of Willing Employers.*** In many partnerships, the number of employers able to make positions available for students is limited. In rural areas, there may simply be few employers to recruit. Some employers' enthusiasm is limited by costs and the potential risks and liabilities they see in having minors active in the workplace.

- ***Development and Monitoring Effort.*** Working with employers to define the content and terms of workplace positions requires substantial effort on the part of staff either at individual schools or in a partnershipwide placement office. After placement, someone must monitor students, identify behavioral or performance issues, and verify the quality of workplace activities. In many sites, school and partnership budgets are stretched hard to provide staff for these functions even when the number of student participants is small.

- ***Students' and Parents' Reluctance About Premature Career Choice.*** Most employers are unwilling to provide extensive training to students unless they already come equipped with usable skills to work productively or have made what appears to be a serious choice and some level of commitment to enter the employer's industry. So far, the number of such students appears to be quite limited. To the extent that intensive workplace activity appears to displace academic courses, parents very commonly object, fearing that their children will be shunted away from a college education and into lower-status careers.

## C. HOW CAN WORKPLACES BE USED CREATIVELY FOR ALL STUDENTS?

In the face of these constraints, it appears likely that workplace activities beyond career exposure will become substantially more widespread only if states and partnerships pursue a more diverse set of strategies to make workplaces a source of stimulating and challenging learning. For many students, opportunities for extended workplace learning like internships or paid apprenticeships linked to a career

major probably will either be unavailable or unattractive. A major issue for the future of STW systems is whether other creative uses of workplaces can systematically enhance these students' education.

Most workplace activity beyond brief career exposure visits now occurs as part of programs that focus on occupations or careers. Students who participate have made at least some commitment to a career direction and, as a result, go to a workplace where they get experience or training to develop skills that are directly applicable to the workplace setting. To the extent possible, for example, students interested in health careers are placed in health facilities.

The very programmatic, career-focused form of workplace activities, however, may turn many students away from them. For many students--and their parents--high school is still a time for building a foundation of knowledge and skills, but not necessarily for choosing where they will be applied. Yet for such students, workplaces may still offer opportunities to learn and apply sophisticated skills whose eventual usefulness to the student may lie in totally unrelated work settings. A major challenge for the STW movement, therefore, may be creating workplace learning opportunities whose value and appeal stem from what students can learn about the economy and how it works, the intellectual challenges they confront, and the broadly applicable skills they can develop rather than solely from the specific career areas or industry settings in which they occur.

Developing such activities would require the imagination to see the world *beyond* the particular workplace and to use the workplace as just a springboard for learning and practicing skills. This approach could make a wide range of worksites--including places where students work in after-school jobs they find outside of any STW program--venues where they can apply what they learn in school and acquire skills they can develop further in school. Some activities might be brief, others longer. For example, rather than being asked to "write an essay about their job" as a formulaic way to link school and workplace, students could be asked to undertake a more substantive analysis of a workplace, the functions performed there, or how it relates to the larger society. Almost any workplace could offer students of widely differing interests

and talents an opportunity for research. For example, one student working after school in a supermarket who is interested in transportation could research the geographic origins of fresh produce and how food gets from where it is raised or harvested to the local retailer. Another interested in becoming a lawyer could write a paper on the role of regulation in maintaining food safety, and a future biochemist might study bacteria levels in various parts of a store. These activities might involve places where students work, but need not. Almost any workplace or industry could supply project opportunities for students with diverse career interests and serve as "career exploration" in a much more active and analytical sense than many activities that simply put students in roles as passive observers.

Extending conventional workplace activities to include such individualized experiences would present its own challenges, however. Imagination is required; someone would have to stimulate and support the identification of "flexible workplace encounters" that pose demanding tasks suitable for students' available time, current skills and aptitudes, and emerging interests. Supervision may be even more demanding than when workplace activity is structured by preset curriculum; students' activities would be more diverse and ensuring that they get critical feedback from teachers even more complex. It remains unclear whether and how schools and their partners would find the time and imagination to create such opportunities.

Taking a more eclectic view of how workplaces can contribute to students' education may also be less appealing to employers or industry groups who see their involvement in STW as a way to develop the supply of skilled job applicants. Employers often see intensive internships and apprenticeships as investments in their own future workforce, or at least the workforce of their industry. If workplaces are instead to be used for some students as a convenient site or stimulus for students' projects--including learning opportunities unrelated to an employer's workforce needs--the burden on the employer will have to be modest. One implication is that the individual employer could not be expected to develop the curriculum. Other sources would have to be tapped. For example, it might be reasonable to seek the help of law firms, engineering companies, scientific laboratories, and industry associations to define topics or

issues that students could explore at a wide range of workplaces, then provide these suggestions to STW partnerships as a menu of challenging activities that build on students' own jobs, their nascent career interests, or even their personal hobbies and interests.

## D. CAN SCHOOL CURRICULUM CONSISTENTLY FOCUS ON CAREERS?

Two approaches have so far been taken in the in-depth study states to developing what the STWOA calls career majors for high school students. They can be called the "program foundation" model and the "school restructuring" model. The former involves expanding and strengthening existing programs such as Tech-Prep, youth apprenticeships, or career academies, some of which originated in vocational education, and, in their early years, generally targeted fairly small segments of the student population (see Chapter IV). To build career majors on the foundation of these programs generally involves defining both academic and vocational course requirements to prepare for particular occupations or career clusters, giving participants opportunities for substantial workplace learning in a relevant occupation, and often clustering participating students in at least some of their academic classes so their content can be tailored to their chosen occupational focus. The school restructuring approach--far less common to date--involves reorganizing an entire school into "houses" or "academies," each with its own faculty and curriculum, focusing on broadly defined career areas, and having all students choose one.

Each of these models has decided strengths and drawbacks. The program foundation model begins, in many partnerships, with popular, established, and often widely publicized programs that already have dedicated faculty and employers involved and students and parents who support the programs. They can be expanded or extended to new career areas without opening broad new questions about the nature and purpose of education. On the other hand, several factors have so far created barriers to substantial expansion. The foundation programs often have focused on narrowly defined occupations associated with traditional vocational education, and thus typically attract the relatively few students willing to make fairly

specific commitments based on either well-defined career or avocational interests as early as 10th or 11th grade.

The school restructuring model appears to have greater potential for involving all students in a curriculum that revolves around broadly defined career areas. By encompassing a wide range of occupations associated with broad career groups, this model can be relevant for students of widely different abilities and career aspirations. No presumption need be made that each student's program of study will revolve around traditionally defined vocational courses. Instead, academic and technical faculty can work together to create new kinds of joint courses, and both can develop projects that span academic disciplines and include theory and application relevant to the broad career area. The school restructuring model, however, also faces challenges. Even if career areas are defined very broadly, students and their parents may be reluctant to make a choice that appears to them to rule out other future career paths. Since this model requires action to revamp schools in ways that clearly affect all students, action may be more difficult to take, and organized community opposition could emerge. Resource limits may constrain the variety of courses that can be offered that would distinguish among career paths. These factors may reduce differences among the career "strands" (as they are called in Oregon); as a result, the strands may become less meaningful to students, faculty, and employers, and lose much of their purpose.

Efforts to implement these approaches broadly, however, are just beginning. The school restructuring model, although it has been included in Oregon legislation for several years, is just now starting to affect local schools. Concerted efforts to develop the program foundation model by expanding youth apprenticeships and Tech-Prep in places like Wisconsin and Michigan are also recent, and the effects of various state incentives to support their expansion remain unclear. The progress of both of these models, and the extent to which they involve a broad segment of the student population, will thus be important measures of whether the career major concept is feasible on a large scale.

Whether or not career majors turn out to be feasible on a large scale, there is likely to remain widespread interest in integrating academic and technical curriculum more closely for large numbers of students. Even if students do not choose a career area and organize their studies around it, many educators believe that our schools must join more closely the theoretical and the applied. Many questions remain, however, about how to achieve this in ways that affect most or all students. How can it be done without students' commitment to career-focused programs of study? How can curriculum integration become an instinctive habit for most teachers? How must teacher preparation change to make that happen? Such questions will be explored further as the evaluation continues.

## E. WILL STW PARTNERSHIPS BE IMPORTANT INSTITUTIONS?

A major question to be answered over the next several years is whether local STW partnerships that span multiple districts and schools fulfill functions that local employers, local schools, and states value enough to sustain them beyond the term of their federally funded STW grants. This general question has three parts: (1) What functions will partnerships perform as they mature? (2) How critical will these partnership functions become to local school districts and employers? (3) What resources will be available to support partnership functions after federal funding expires?

As recipients of federally funded grants, such partnerships in the short term can be expected to play visible roles, but how these roles will develop remains uncertain. At a minimum, they typically disburse a portion of grant funds to local schools and help to identify needs for professional development and provide resources to meet them. If these remain their only functions, it is unlikely that local school districts and other partners will view them as serving long-term functions vital to their students. Some partnerships are now actively involved in promoting joint development among partners of common policies and procedures, but these tend to be the exception so far.

Areawide partnerships will only be important in the long run if they develop a broader set of functions that schools and the partners they work with at the very local level cannot do as well on their own. These

could include areawide placement and monitoring of students in worksite activities, development and distribution of useful curriculum materials, recruiting employer partners, public communications, and ongoing professional development.

However, the relationship of STW partnerships to other institutions may affect the feasibility and importance of these roles. Where STW partnerships are defined at a very small scale--including, for example, just a single small school district and employers and other partners within its boundaries--their major contribution is likely to be the strengthening of ties between schools and employers. They may not, however, reap any of the potential benefits of increasing the scale of operation of key STW components like employer recruiting or student placement in worksite activities. Where intermediate educational service districts or community colleges are important providers of professional development services or curriculum services, they may in effect perform the same functions as a partnership, and reduce the perceived importance of a distinct partnership entity. In states where STW partnerships are being subsumed under local Workforce Development Boards with broader responsibilities, the partnerships may not continue to be formally constituted as distinct entities, and the roles they have been playing may be submerged to at least some extent among other concerns (such as job training for low-income adults).

The role that postsecondary institutions play in local partnerships may also be an important factor in whether the partnerships exist in any formal sense in the long term. The most intensive collaboration in building STW systems, at this early stage, seems to be between schools and employers in many areas. If postsecondary institutions remain somewhat peripheral to the STW endeavor, the potential importance of sustaining partnerships as an institution with a defined governance and decisionmaking process may be diminished. The fewer active partners there are, the more likely it might be that ad hoc cooperation and localized decision making are all that the partners feel is necessary.

The ultimate question is whether the concept of the partnership as an institution will be supported financially and sustained. One possible view is that local partnerships need exist only long enough to help

develop and establish policies and practices within schools, and habits of collaboration between schools and employers. In that event, they might be expected to pass from the scene as seed money funding under the STWOA declines and ends. Schools, employers, and other partners could still work together, of course, but in a less formalized way and probably on a more localized scale. An alternative view is that not only the creation but the ongoing existence of a STW system requires an entity as a "hub" for efforts by schools, employers, and other community groups, with resources to do what those parties cannot do individually or in localized bilateral relationships. The latter view implies that states, local school districts, employers, foundations, or other sources will in some combination have to provide ongoing funding for STW partnerships.

There are no answers to these questions now. The evaluation will continue to address them over the next several years, because they are at the heart of what it means to create a STW system. Later case study visits in the eight in-depth study states will focus to a large extent on the evolving role of local partnerships, how central they are to partners' vision of the future educational system, and what resources will support that vision.

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